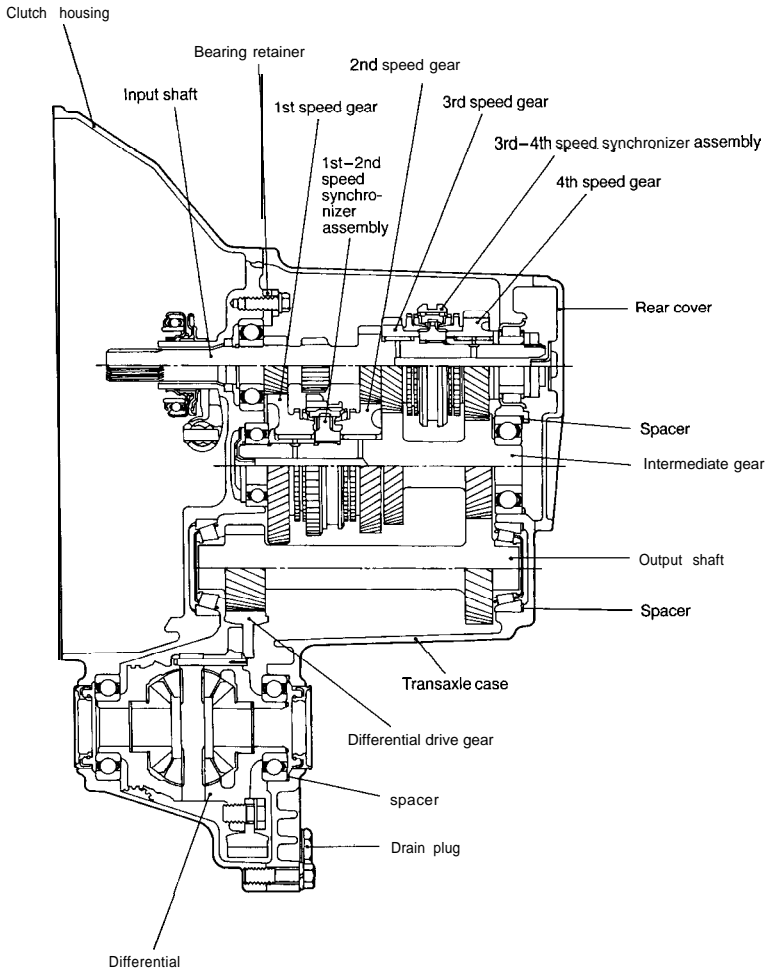


# GENERAL INFORMATION

## SECTIONAL VIEW – F4M21



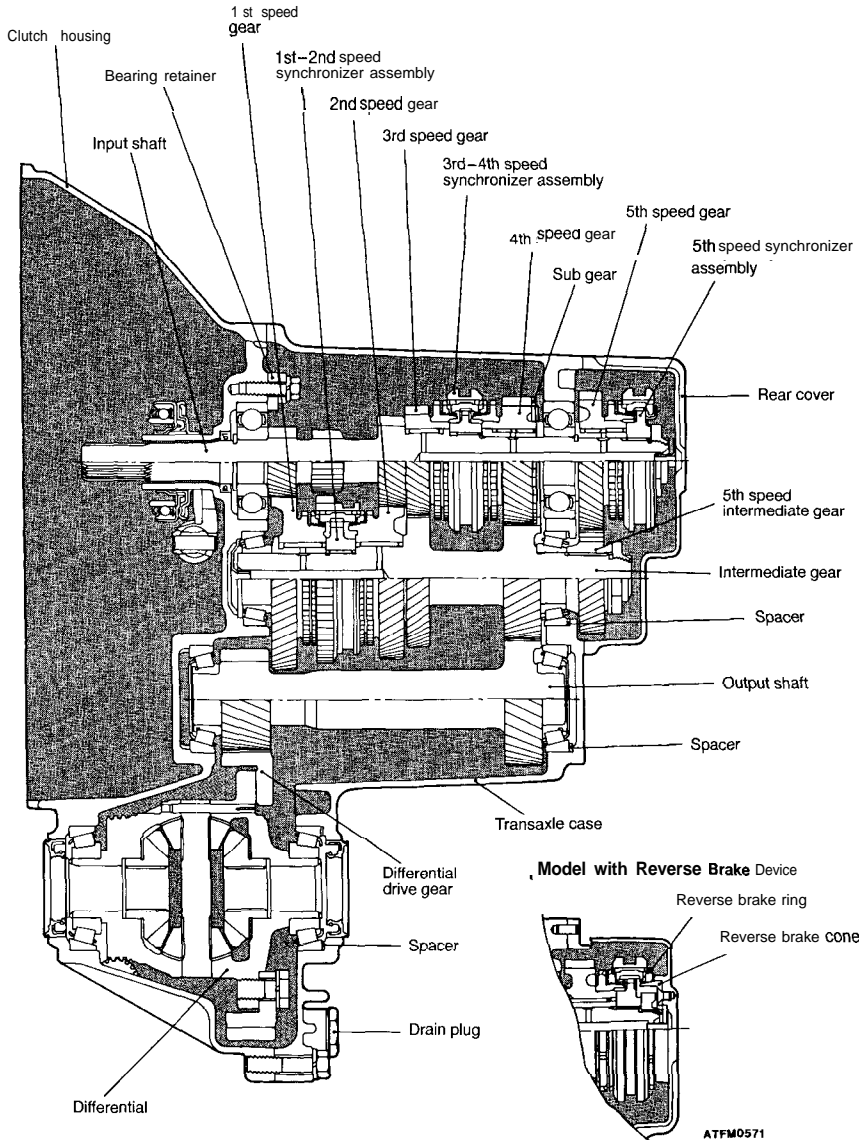
# MANUAL TRANSAXLE

## F4M2, F5M2, F5M3, W5M3

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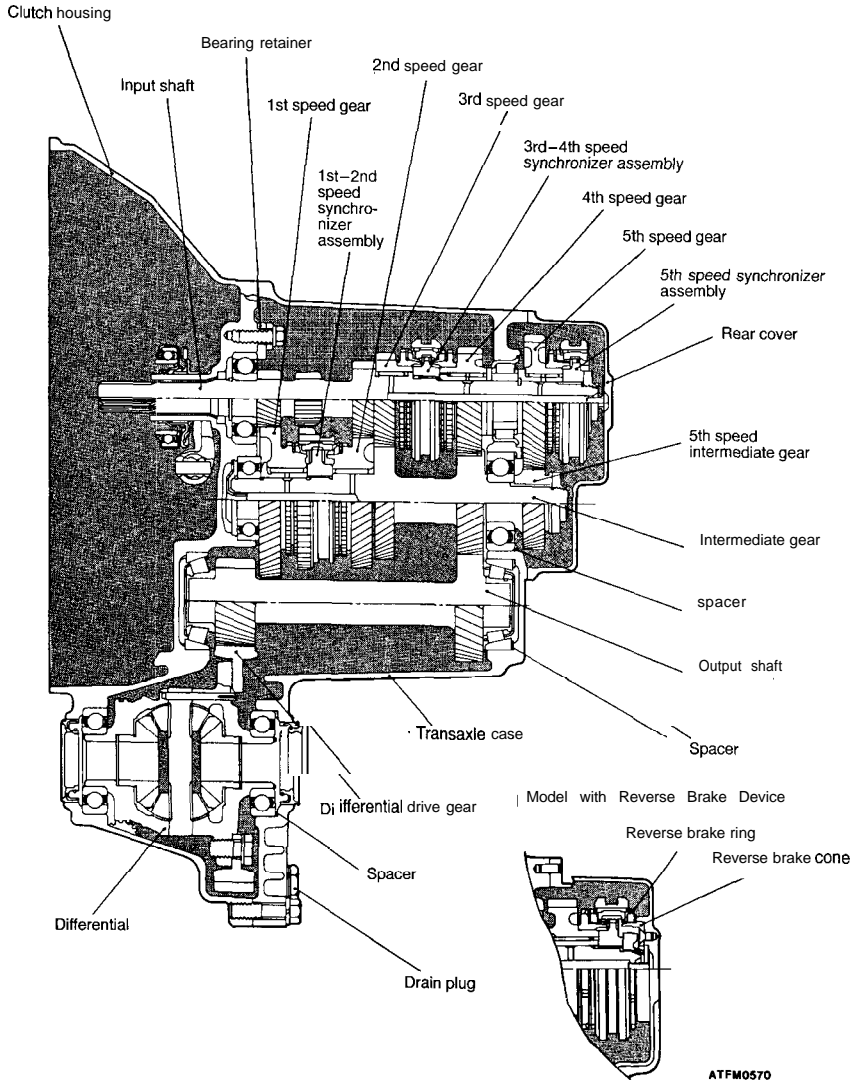
SECTIONAL VIEW - F5M22



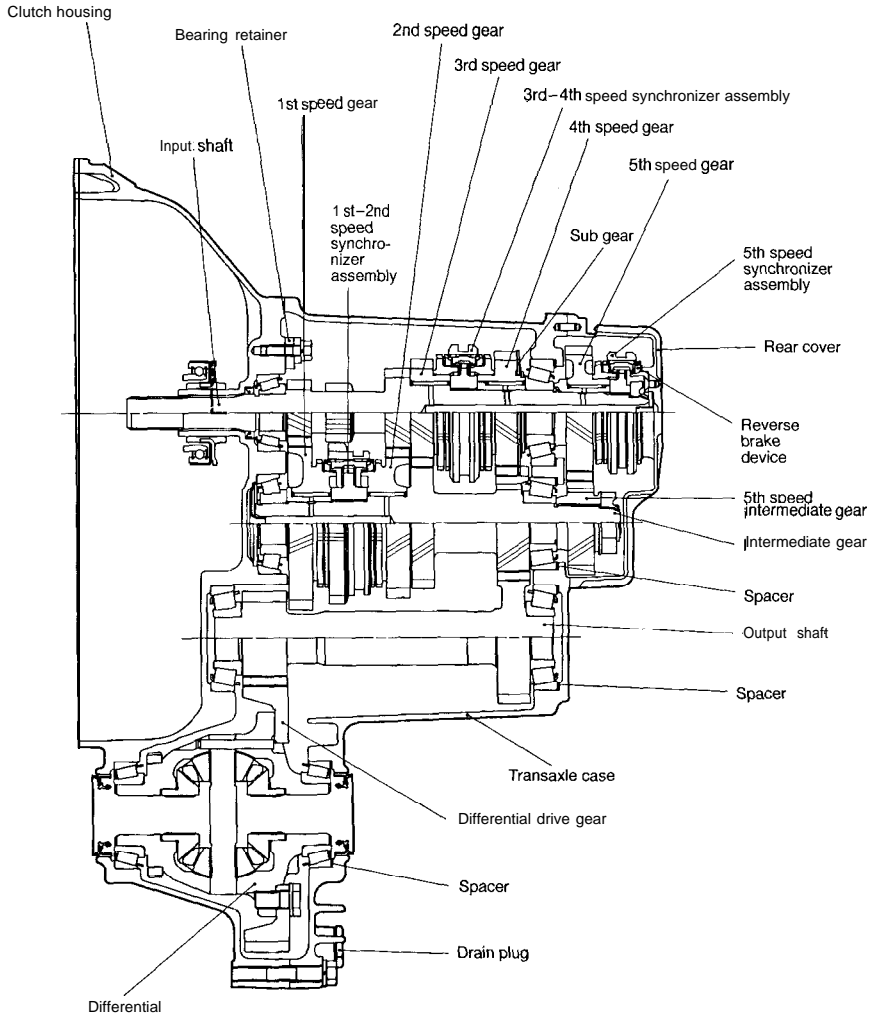
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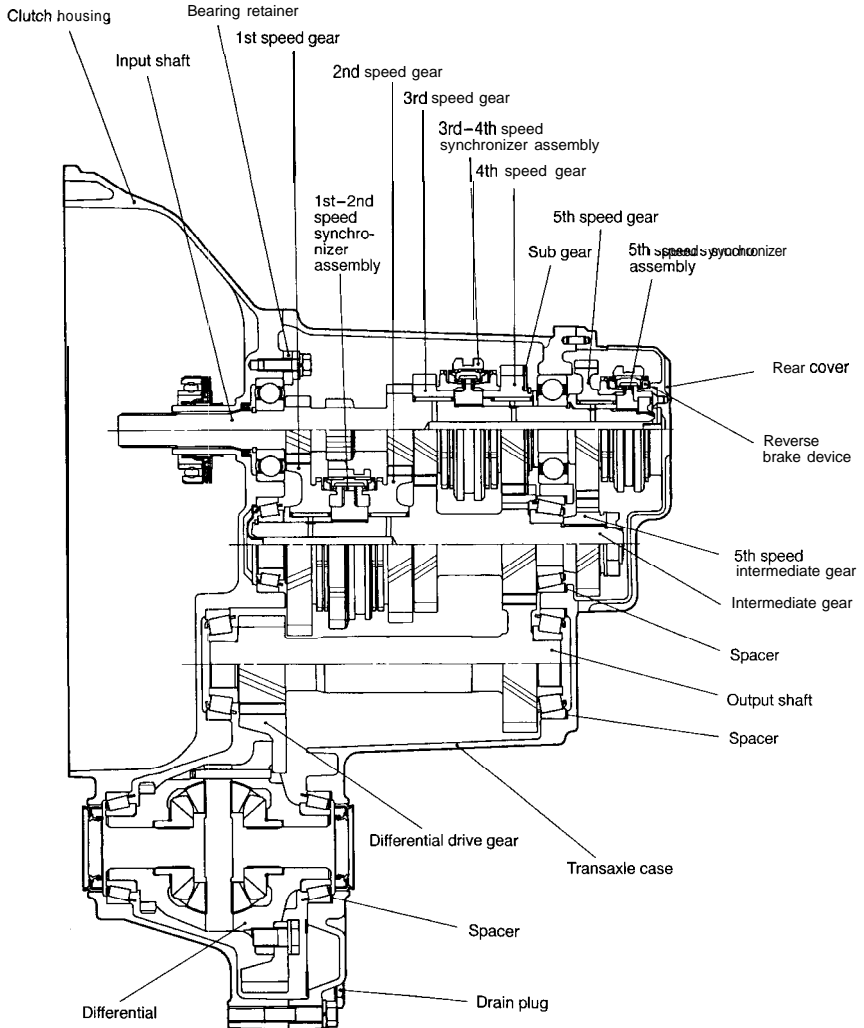
SECTIONAL VIEW -- F5M21



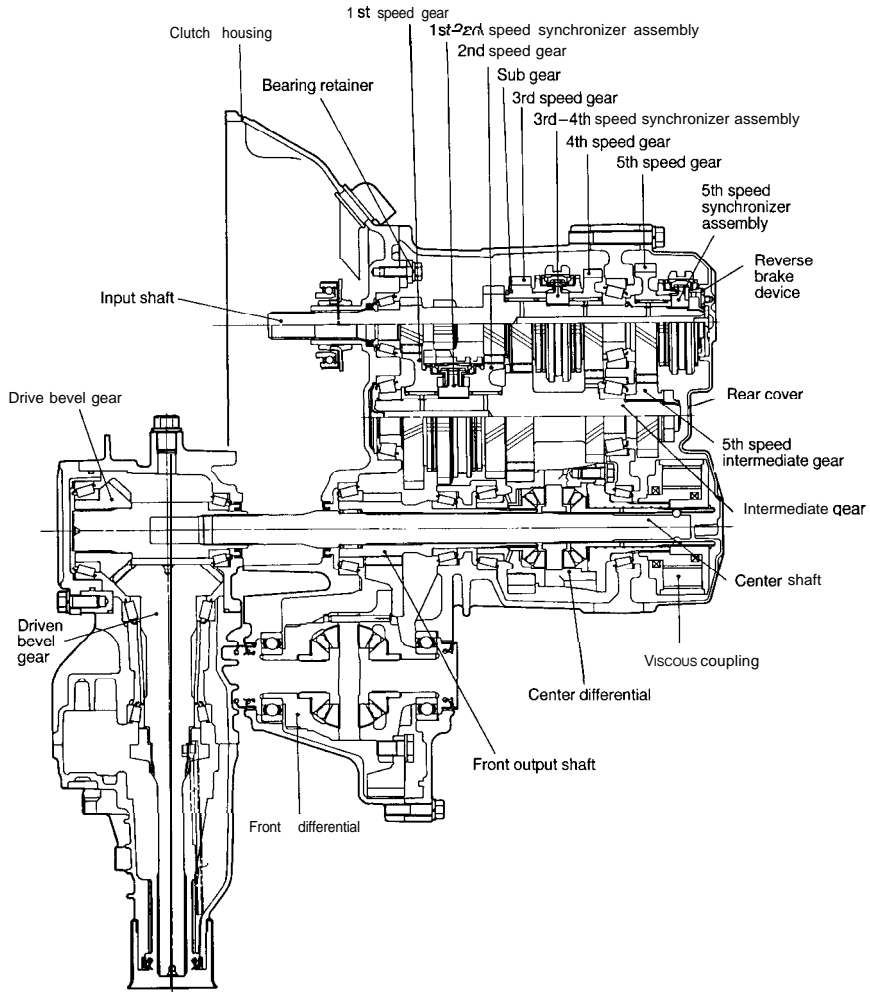
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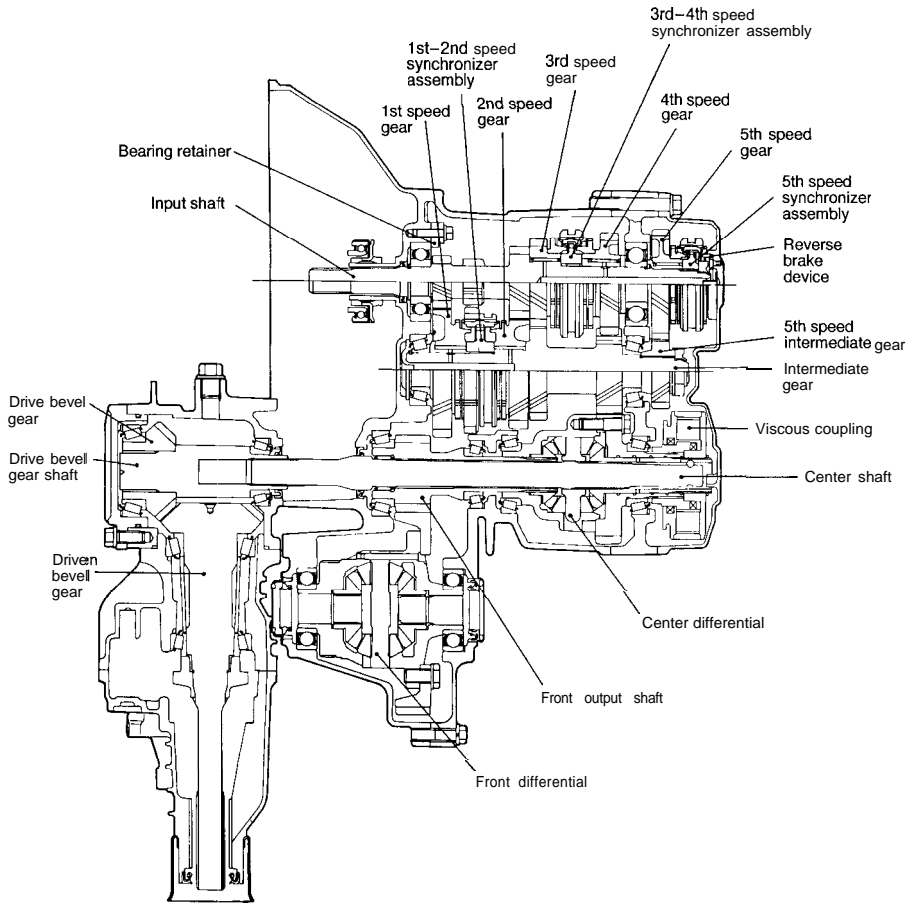
SECTIONAL VIEW – F5M31



SECTIONAL VIEW – W5M33



SECTIONAL VIEW – W5M31





## 22A-10

## F4M2, F5M2, F5M3, W5M3 – Specifications

| Transaxle model | Gear ratio | Speedometer gear ratio | Final gear ratio | Vehicle model | Engine model    |
|-----------------|------------|------------------------|------------------|---------------|-----------------|
| F5M33-2-SPQV    | H          | 29/36                  | 4.153            | D22A          | 4G62-DOHC Turbo |
| W5M31-2-VZXL    | I          | 28/36                  | 5.208            | N21W          | 4G93            |
| W5M33-2-NNXL    | L          | 28/36                  | 4.933            | N24W, N44W    | 4G64            |
| W5M33-2-NPXV    | K          | 29/36                  | 4.933            | D27A          | 4G63-DOHC Turbo |

### TRANSAXLE MODEL TABLE . . . . MODEL 1994

| Transaxle model | Gear ratio | Speedometer gear ratio | Final gear ratio | Vehicle model | Engine model    |
|-----------------|------------|------------------------|------------------|---------------|-----------------|
| F5M21-2-FRAE    | B          | 31136                  | 3.752            | CA2A, CB2A    | 4G15            |
| F5M21-2-FSAE    | B          | 32/36                  | 3.752            | CA2A          | 4G15            |
| F5M22-1-VPKV    | C          | 29/36                  | 4.322            | D21A          | 4G37            |
| F5M22-2-RRKE    | B          | 31136                  | 4.021            | CA5A          | 4G93            |
| F5M22-2-RQKE    | B          | 30/36                  | 4.021            | CA5A, CB5A    | 4G93            |
| F5M22-2-VPZV    | C          | 29/36                  | 4.322            | D22A          | 4G63-DOHC       |
| F5M22-2-XNXL    | E          | 28/36                  | 4.592            | N11W          | 4G93            |
| F5M31-2-VNXL    | G          | 28/36                  | 4.322            | N14W, N34W    | 4G64            |
| F5M31-2-VPXF    | G          | 29/36                  | 4.322            | E56A          | 4G64            |
| F5M31-2-VPZF    | G          | 29/36                  | 4.322            | E56A          | 4G64-DOHC       |
| F5M33-2-SNQR    | H          | 28/36                  | 4.153            | Z11A          | 6G72-DOHC       |
| F5M33-2-SPQV    | H          | 29/36                  | 4.153            | D22A          | 6G63-DOHC Turbo |
| W5M33-2-NNXL    | L          | 28/36                  | 4.933            | N44W          | 4G64            |
| W5M33-2-NPXV    | K          | 29/36                  | 4.933            | D27A          | 4G63-DOHC Turbo |

**SPECIFICATIONS**

**TRANSAXLE MODEL TABLE . . . . MODEL 1992**

| Transaxle model | Gear ratio | Speedometer gear ratio | Final gear ratio | Vehicle model | Engine model    |
|-----------------|------------|------------------------|------------------|---------------|-----------------|
| F4M21-1-BRAC    | A          | 31/36                  | 3.454            | C52A          | 4G15            |
| F5M21-1-RRJC    | B          | 31/36                  | 4.021            | C52A, C62A    | 4G15            |
| F5M22-1-VPKV    | C          | 29/36                  | 4.322            | D21A          | 4G37            |
| F5M22-1-RPKK    | C          | 29/36                  | 4.021            | E33A          | 4G63            |
| F5M22-2-XRZC    | D          | 31/36                  | 4.592            | C63A          | 4G61-DOHC       |
| F5M22-2-XNXL    | E          | 28/36                  | 4.592            | N11 W         | 4G93            |
| F5M22-2-VPZV    | C          | 29/36                  | 4.322            | D22A          | 4G63-DOHC       |
| F5M31-2-ZQZK    | F          | 30/36                  | 4.913            | E33A          | 4G63-DOHC       |
| F5M31-2-VNXZ    | G          | 28/36                  | 4.322            | N34W          | 4G64            |
| F5M33-2-SPZV    | H          | 29/36                  | 4.153            | D22A          | 4G63-DOHC Turbo |
| F5M33-2-SNZR    | H          | 28/36                  | 4.153            | Z11A          | 6G72-DOHC       |
| W5M31-2-VNXL    | I          | 28/36                  | 5.208            | N21W          | 4G93            |
| W5M31-2-VQBK    | J          | 30/36                  | 5.208            | E38A          | 4G63-DOHC       |
| W5M33-2-NNXZ    | K          | 28/36                  | 4.933            | N44W          | 4G64            |
| W5M33-2-NQBM    | L          | 30/36                  | 4.933            | E39A          | 4G63-DOHC Turbo |
| W5M33-2-NPXV    | L          | 29/36                  | 4.933            | D27A          | 4G63-DOHC Turbo |

**TRANSAXLE MODEL TABLE . . . . MODEL 1993**

| Transaxle model | Gear ratio | Speedometer gear ratio | Final gear ratio | Vehicle model | Engine model |
|-----------------|------------|------------------------|------------------|---------------|--------------|
| F5M21-2-FRAE    | B          | 31/36                  | 3.752            | CA2A          | 4G15         |
| F5M21-2-FSAE    | B          | 32/36                  | 3.752            | CA2A, CB2A    | 4G15         |
| F5M22-1-VPKV    | C          | 29/36                  | 4.322            | D21A          | 4G37         |
| F5M22-2-RPKK    | C          | 29/36                  | 4.021            | E33A          | 4G63-DOHC    |
| F5M22-2-RQZK    | F          | 30/36                  | 4.021            | E33A          | 4G63-DOHC    |
| F5M22-2-RRKE    | B          | 31/36                  | 4.021            | CB5A          | 4G93         |
| F5M22-2-VPZV    | C          | 29/36                  | 4.322            | D22A          | 4G63-DOHC    |
| F5M22-2-XNXL    | E          | 28/36                  | 4.592            | N11W          | 4G93         |
| F5M31-2-VNXL    | G          | 28/36                  | 4.322            | N14W, N34W    | 4G64         |
| F5M31-2-ZQZK    | F          | 30/36                  | 4.913            | E33A          | 4G63-DOHC    |
| F5M33-2-SNQR    | H          | 28/36                  | 4.153            | Z11A          | 6G72-DOHC    |

F4M2, F5M2, F5M3, W5M3 - Specifications

GEAR RATIO TABLE

|          | A     | B     | C     | D     | E     | F     | G     | H     | I     | J     | K     | L     |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1st      | 3.363 | 3.363 | 3.363 | 3.083 | 3.454 | 2.846 | 3.166 | 3.090 | 3.083 | 2.846 | 3.083 | 2.846 |
| 2nd      | 1.947 | 1.947 | 1.947 | 1.947 | 1.947 | 1.833 | 1.833 | 1.833 | 1.684 | 1.684 | 1.684 | 1.684 |
| 3rd      | 1.285 | 1.285 | 1.285 | 1.285 | 1.285 | 1.217 | 1.240 | 1.217 | 1.115 | 1.115 | 1.115 | 1.115 |
| 4th      | 0.939 | 0.939 | 0.939 | 0.939 | 0.939 | 0.888 | 0.896 | 0.888 | 0.833 | 0.833 | 0.833 | 0.833 |
| 5th      | —     | 0.777 | 0.756 | 0.756 | 0.756 | 0.731 | 0.731 | 0.741 | 0.690 | 0.690 | 0.666 | 0.666 |
| Reverse  | 3.083 | 3.083 | 3.083 | 3.083 | 3.083 | 3.166 | 3.166 | 3.166 | 3.166 | 3.166 | 3.166 | 3.166 |
| Transfer | —     | —     | —     | —     | —     | —     | —     | —     | 1.090 | 1.090 | 1.090 | 1.090 |

SERVICE SPECIFICATIONS <FWD>

| Items  | Standard value              |
|--|-----------------------------|
| Differential case end play <F4M21, F5M21> mm (in.)                       | 0.05-0.17 (.0020-.0067)     |
| Differential case preload <F5M22, F5M31, F5M33> mm (in.)                 | 0.05-0.10 (.0020-.0040)     |
| Differential pinion backlash <All models> mm (in.)                       | 0.025-0.150 (.00098-.00591) |
| Input shaft front bearing end play <F4A21, F5M21, F5M22, F5M31> mm (in.) | 0.01-0.12 (.0004-.0047)     |
| Input shaft end play <F5M33> mm (in.)                                    | 0-0.05 (0-.0020)            |
| Input shaft rear bearing end play <F5M21, F5M22, F5M31, F5M33> mm (in.)  | 0-0.09 (0-.00354)           |
| Intermediate gear bearing end play <F4M21, F5M21, F5M22, F5M33> mm (in.) | 0.01-0.14 (.0004-.0055)     |
| Intermediate gear bearing end play <F5M31> mm (in.)                      | 0.01-0.11 (.0004-.0044)     |
| Intermediate gear end play <F4M21, F5M21> mm (in.)                       | 0.05-0.17 (.0020-.0067)     |
| Intermediate gear preload <F5M22, F5M31, F5M33> mm (in.)                 | 0.05-0.10 (.0020-.0040)     |
| Output shaft preload <All models> mm (in.)                               | 0.05-0.10 (.0020-.0040)     |

**TRANSAXLE MODEL TABLE . . . . MODEL 1995**

| Transaxle model | Gear ratio | Speedometer gear ratio | Final gear ratio | Vehicle model | Engine model    |
|-----------------|------------|------------------------|------------------|---------------|-----------------|
| F5M21-2-FRAE    | B          | 31136                  | 3.752            | CA2A, CB2A    | 4G15            |
| F5M21-2-FSAE    | B          | 32/36                  | 3.752            | CA2A          | 4G15            |
| F5M22-2-RQKE    | B          | 30/36                  | 4.021            | CA5A, CB5A    | 4G93            |
| F5M22-2-XPXL    | B          | 29/36                  | 4.592            | N11W          | 4G93            |
| F5M31-2-VNXL    | G          | 28/36                  | 4.322            | N14W, N34W    | 4G64            |
| F5M31-2-VVXF    | G          | 29/36                  | 4.322            | E56A          | 4G64            |
| F5M31-2-VVZF    | G          | 29/36                  | 4.322            | E56A          | 4G64-DOHC       |
| F5M33-2-SPZT    | H          | 29/36                  | 4.153            | D32A          | 4G63-DOHC Turbo |
| F5M33-2-SUQR    | H          | 28/36                  | 4.153            | Z11A          | 6G72-DOHC       |
| W5M33-2-NNXL    | L          | 28/36                  | 4.933            | N44W          | 4G64            |
| W5M33-2-NPZT    | K          | 29/36                  | 4.933            | D33A          | 4G63-DOHC Turbo |

**TRANSAXLE MODEL TABLE . . . . MODEL 1996**

| Transaxle model | Gear ratio | Speedometer gear ratio | Final gear ratio | Vehicle model | Engine model    |
|-----------------|------------|------------------------|------------------|---------------|-----------------|
| F5M21-2-FRAE    | B          | 31/36                  | 3.752            | CA2A          | 4G15            |
| F5M21-2-FSAE    | B          | 32/36                  | 3.752            | CA2A          | 4G15            |
| F5M22-2-FRAE    | B          | 31/36                  | 3.752            | CB2A          | 4G15            |
| F5M22-2-RQKE    | B          | 30/36                  | 4.021            | CA5A, CB5A    | 4G93            |
| F5M22-2-RRKE    | B          | 31136                  | 4.021            | CB5A          | 4G93            |
| F5M22-2-XPXL    | B          | 29/36                  | 4.592            | N11W          | 4G93            |
| F5M31-2-VNXL    | G          | 28/36                  | 4.322            | N14W, N34W    | 4G64            |
| F5M31-2-VPXL    | G          | 29/36                  | 4.322            | N14W          | 4G64            |
| F5M31-2-VVXF    | G          | 29/36                  | 4.322            | E56A          | 4G64-DOHC       |
| F5M31-2-VVXT    | G          | 29/36                  | 4.322            | D34A          | 4G64            |
| F5M33-2-SPZT    | H          | 29/36                  | 4.153            | D32A          | 4G63-DOHC Turbo |
| F5M33-2-SUQR    | H          | 28/36                  | 4.153            | Z11A          | 6G72-DOHC       |
| W5M33-2-MNXL    | L          | 28/36                  | 3.908            | N24W, N44W    | 4G64            |
| W5M33-2-NPZT    | K          | 29/36                  | 4.933            | D33A          | 4G63-DOHC Turbo |

## SNAP RINGS AND SPACERS ADJUSTMENT

| Part name  | Thickness mm (in.)   | Identification symbol | Part No. |          |
|--|--|-----------------------|----------|----------|
| Snap ring<br>For adjustment of input shaft front bearing end play)                         | 2.24 (.0882)   | None                  | MD706537 |          |
|  | 2.31 (.0909)   | Blue                  | MD706538 |          |
|  | 2.38 (.0937)   | Brown                 | MD706539 |          |
| Snap ring: F5M21,F5M22<br>For adjustment of input shaft rear bearing end play)             | 1.80 (.0709)   | Blue                  | MD730785 |          |
|  | 1.87 (.0736)   | White                 | MD730786 |          |
|  | 1.94 (.0764)   | None                  | MD730787 |          |
|  | 2.01 (.0791)   | Green                 | MD730788 |          |
|  | 2.08 (.0819)   | Yellow                | MD730834 |          |
|  | 2.15 (.0846)   | Brown                 | MD730835 |          |
| Snap ring: F5M31,F5M33,W5M31,W5M33<br>For adjustment of input shaft rear bearing end play) | 1.40 (.0551)   | Blue                  | MD723276 |          |
|  | 1.45 (.0571)   | Purple                | MD730889 |          |
|  | 1.50 (.0591)   | Red                   | MD723277 |          |
|  | 1.55 (.0610)   | White                 | MD730890 |          |
|  | 1.60 (.0630)   | Yellow                | MD723278 |          |
|  | 1.65 (.0650)   | Brown                 | MD730891 |          |
|  | 1.70 (.0670)   | Green                 | MD723279 |          |
|  | 1.75 (.0689)   | Orange                | MD730892 |          |
|  | Spacer: F5M33,W5M33<br>For adjustment of input shaft end play) | 0.80 (.0315)          | 80       | MD727661 |
|  |  | 0.83 (.0327)          | 83       | MD720937 |
| 0.86 (.0338)   |  | 86                    | MD720938 |          |
| 0.89 (.0350)   |  | 89                    | MD720939 |          |
| 0.92 (.0362)   |  | 92                    | MD720940 |          |
| 0.95 (.0374)   |  | 95                    | MD720941 |          |
| 0.98 (.0386)   |  | 98                    | MD720942 |          |
| 1.01 (.0398)   |  | 01                    | MD720943 |          |
| 1.04 (.0409)   |  | 04                    | MD720944 |          |
| 1.07 (.0421)   |  | 07                    | MD720945 |          |
| 1.10 (.0433)   |  | J                     | MD710454 |          |
| 1.13 (.0445)   | D  | MD700270              |          |          |
| 1.16 (.0457)   | K  | MD710455              |          |          |
| 1.19 (.0468)   | L  | MD710456              |          |          |

**SERVICE SPECIFICATIONS <AWD>**

| items   | Standard value               |
|---|------------------------------|
| Center differential case end play <Allmodels> mm (in.)              | 0.08–0.13 (.0031–.0051)      |
| Center differential side gear end play <Allmodels> mm (in.)         | 0.05–0.25 (.0020 –.0100)     |
| Front differential case end play <Allmodels> mm (in.)               | 0.05–0.17 (.0020–.0067)      |
| Front differential pinion backlash <Allmodels> mm (in.)             | 0.025–0.150 (.00098 –.00591) |
| Front output shaft preload <Allmodels> mm (in.)                     | 0.08–0.13 (.0031–.0051)      |
| Input shaft end play <W5M33> mm (in.)                               | 0–0.05 (0–.0020)             |
| Input shaft front bearing end play <Allmodels> mm (in.)             | 0.01–0.12 (.0004–.0047)      |
| Input shaft rear bearing end play <Allmodels> mm (in.)              | 0–0.09 (0–.0035)             |
| Intermediate gear bearing end play <W5M31> mm (in.)                 | 0.01–0.11 (.0004–.0043)      |
| Intermediate gear bearing end play <W5M33> mm (in.)                 | 0.01–0.14 (.0004–.0055)      |
| Intermediate gear preload <Allmodels> mm (in.)                      | 0.08–0.13 (.0031–.0051)      |
| Transfer bevel gear set backlash <Allmodels> mm (in.)               | 0.08–0.13 (.0031–.0051)      |
| Transfer drive bevel gear rotating torque <Allmodels> Nm (ft.lbs.)  | 1.7-2.5 (1.23-1.81)          |
| Transfer driven bevel gear rotating torque <Allmodels> Nm (ft.lbs.) | 1.0–1.7 (0.72–1.23)          |
| Viscous coupling end play <Allmodels> mm (in.)                      | 0.10–0.26 (.0039–.0102)      |

**SEALANTS AND ADHESIVES**

| Items  | Specified sealants and adhesives                             | Quantity    |
|--|--|-------------|
| Transaxle case – rear cover mating surfaces          | Mitsubishi genuine sealant<br>Part No.MD997740 or equivalent | As required |
| Transaxle case – clutch housing mating surfaces      |  |             |
| Adapter-transaxle case mating surfaces <AWD>         |  |             |
| Adapter – rear cover mating surfaces <AWD>           |  |             |
| Output gear bolt <AWD>                               | 3M STUD Locking No.4170 or equivalent                        | As required |
| Differential drive gear bolts                        |  |             |
| Bearing retainer bolt (Countersink head bolt only)   |  |             |
| Air breather   | 3M SUPER WEATHERSTRIP No.8001 or equivalent                  | As required |
| Transfer extension housing – adapter mating surfaces | Mitsubishi genuine sealant<br>Part No.MD997740 or equivalent | As required |
| Transfer cover gasket                                | 3M ATD Part No.8660 or equivalent                            | As required |

| Part name   | Thickness mm (in.) | Identification symbol | Part No. |
|---|--------------------|-----------------------|----------|
| Spacer: F5M22<br>(For adjustment of intermediate gear end play)       | 0.83 (.0327)       | 83                    | MD723308 |
|   | 0.86 (.0338)       | 86                    | MD723309 |
|   | 0.89 (.0350)       | 89                    | MD723310 |
|   | 0.92 (.0362)       | 92                    | MD723311 |
|   | 0.95 (.0374)       | 95                    | MD723312 |
|   | 0.98 (.0394)       | 98                    | MD723313 |
|   | 1.01 (.0398)       | 01                    | MD723314 |
|   | 1.04 (.0409)       | 04                    | MD723315 |
|   | 1.07 (.0421)       | 07                    | MD723316 |
|   | 1.10 (.0433)       | 10                    | MD723317 |
|   | 1.13 (.0445)       | 13                    | MD723318 |
|   | 1.16 (.0457)       | 16                    | MD723319 |
|   | 1.19 (.0468)       | 19                    | MD723320 |
|   | 1.22 (.0480)       | 22                    | MD723321 |
|   | 1.25 (.0492)       | 25                    | MD723322 |
|   | 1.28 (.0504)       | 28                    | MD723323 |
|   | 1.31 (.0516)       | 31                    | MD723324 |
| 1.34 (.0527)  | 34                 | MD723325              |          |
| 1.37 (.0539)  | 37                 | MD723326              |          |
| Spacer: F5M31,F5M33<br>(For adjustment of intermediate gear end play) | 0.62 (.0244)       | 62                    | MD736754 |
|   | 0.65 (.0256)       | 65                    | MD736755 |
|   | 0.68 (.0268)       | 68                    | MD735659 |
|   | 0.71 (.0280)       | 71                    | MD735660 |
|   | 0.74 (.0291)       | 74                    | MD735661 |
|   | 0.77 (.0303)       | 77                    | MD735662 |
|   | 0.80 (.0315)       | 80                    | MD724142 |
|   | 0.83 (.0327)       | 83                    | MD724143 |
|   | 0.86 (.0338)       | 86                    | MD724144 |
|   | 0.89 (.0350)       | 89                    | MD724145 |
|   | 0.92 (.0362)       | 92                    | MD724146 |
|   | 0.95 (.0374)       | 95                    | MD724147 |
|   | 0.98 (.0386)       | 98                    | MD724148 |

| Part name  | Thickness mm (in.) | Identification symbol | Part No. |
|--|--------------------|-----------------------|----------|
| Spacer: F5M33, W5M33<br>(For adjustment of input shaft end play)                               | 1.22 (.0480)       | G                     | MD700271 |
|  | 1.25 (.0492)       | M                     | MD710457 |
|  | 1.28 (.0504)       | N                     | MD710458 |
|  | 1.31 (.0561)       | E                     | MD706574 |
|  | 1.34 (.0527)       | O                     | MD710459 |
|  | 1.37 (.0539)       | P                     | MD710460 |
|  | 1.40 (.0551)       | —                     | MD706573 |
|  | 1.43 (.0563)       | Q                     | MD710461 |
|  | 1.46 (.0575)       | R                     | MD710462 |
| Snap ring: F4M21, F5M22, F5M33<br>(For adjustment of intermediate rear front bearing end play) | 1.40 (.0551)       | None                  | MD703779 |
|  | 1.50 (.0591)       | Brown                 | MD703780 |
|  | 1.60 (.0630)       | Blue                  | MD703781 |
| Snap ring: F5M31<br>(For adjustment of intermediate gear front bearing end play)               | 1.40 (.0551)       | Blue                  | MD723276 |
|  | 1.50 (.0591)       | Red                   | MD723277 |
|  | 1.60 (.0630)       | Yellow                | MD723278 |
|  | 1.70 (.0670)       | Green                 | MD723279 |
| Spacer: F4M21, F5M21<br>(For adjustment of intermediate gear end play)                         | 0.47 (.0185)       | 47                    | MD736750 |
|  | 0.56 (.0220)       | 56                    | MD720969 |
|  | 0.65 (.0256)       | 65                    | MD720970 |
|  | 0.74 (.0291)       | 74                    | MD720971 |
|  | 0.83 (.0327)       | 83                    | MD720972 |
|  | 0.92 (.0362)       | 92                    | MD720973 |
|  | 1.01 (.0394)       | 01                    | MD720974 |
|  | 1.10 (.0433)       | 10                    | MD718511 |
|  | 1.19 (.0469)       | 19                    | MD736751 |
| Spacer: F5M22<br>(For adjustment of intermediate gear end play)                                | 0.62 (.0244)       | 62                    | MD736752 |
|  | 0.65 (.0256)       | 65                    | MD736753 |
|  | 0.68 (.0268)       | 68                    | MD735663 |
|  | 0.71 (.0280)       | 71                    | MD735664 |
|  | 0.74 (.0291)       | 74                    | MD735665 |
|  | 0.77 (.0303)       | 77                    | MD735666 |
|  | 0.80 (.0315)       | 80                    | MD723307 |



**22A-1 a**

**F4M2, F5M2, F5M3, W5M3 – Specifications**

| Part name  | Thickness mm (in.) | Identification symbol | Part No. |
|--|--------------------|-----------------------|----------|
| Spacer: W5M31<br>(For adjustment of intermediate gear preload)           | 1.76 (.0692)       | 76                    | MD712342 |
|  | 1.79 (.0705)       | 79                    | MD712343 |
|  | 1.82 (.0716)       | 82                    | MD712344 |
|  | 1.85 (.0728)       | 85                    | MD712345 |
| Spacer: W5M33<br>(For adjustment of intermediate gear preload)           | 0.80 (.0315)       | 80                    | MD720948 |
|  | 0.83 (.0327)       | 83                    | MD720949 |
|  | 0.86 (.0338)       | 86                    | MD720950 |
|  | 0.89 (.0350)       | 89                    | MD720951 |
|  | 0.92 (.0362)       | 92                    | MD720952 |
|  | 0.95 (.0374)       | 95                    | MD720953 |
|  | 0.98 (.0386)       | 98                    | MD720954 |
|  | 1.01 (.0398)       | 01                    | MD720955 |
|  | 1.04 (.0409)       | 04                    | MD720956 |
|  | 1.07 (.0421)       | 07                    | MD720957 |
|  | 1.10 (.0433)       | 10                    | MD720958 |
|  | 1.13 (.0445)       | 13                    | MD720959 |
|  | 1.16 (.0457)       | 16                    | MD720960 |
|  | 1.19 (.0468)       | 19                    | MD720961 |
|  | 1.22 (.0480)       | 22                    | MD720962 |
|  | 1.25 (.0492)       | 25                    | MD712346 |
|  | 1.28 (.0504)       | 28                    | MD712347 |
|  | 1.31 (.0515)       | 31                    | MD712348 |
|  | 1.34 (.0527)       | 34                    | MD712349 |
|  | 1.37 (.0539)       | 37                    | MD712329 |
| Spacer: F4M21, F5M21, F5M22<br>(For adjustment of output shaft end play) | 1.40 (.0551)       | 40                    | MD712330 |
|  | 1.43 (.0563)       | 43                    | MD712331 |
|  | 0.74 (.0291)       | 74                    | MD720947 |
|  | 0.77 (.0303)       | 77                    | MD736756 |
|  | 0.80 (.0315)       | 80                    | MD720948 |
|  | 0.83 (.0327)       | 83                    | MD720949 |
|  | 0.86 (.0338)       | 86                    | MD720950 |
|  | 0.89 (.0350)       | 89                    | MD720951 |

| Part name  | Thickness mm (in.)   | Identification symbol | Part No. |
|--|--|-----------------------|----------|
| Spacer: F5M31, F5M33<br>(For adjustment of intermediate gear end play) | 1.01 (.0398)   | 01                    | MD724149 |
|  | 1.04 (.0409)   | 04                    | MD724150 |
|  | 1.07 (.0421)   | 07                    | MD724151 |
|  | 1.10 (.0433)   | 10                    | MD724152 |
|  | 1.13 (.0445)   | 13                    | MD724153 |
|  | 1.16 (.0457)   | 16                    | MD724154 |
|  | 1.19 (.0468)   | 19                    | MD724155 |
|  | 1.22 (.0480)   | 22                    | MD724156 |
|  | 1.25 (.0492)   | 25                    | MD724157 |
|  | 1.28 (.0504)   | 28                    | MD724158 |
|  | 1.31 (.0516)   | 31                    | MD724159 |
|  | 1.34 (.0527)   | 34                    | MD724160 |
|  | 1.37 (.0539)   | 37                    | MD724161 |
|  | Spacer: W5M31<br>(For adjustment of intermediate gear preload) | 1.19 (.0468)          | 19       |
| 1.22 (.0480)   |  | 22                    | MD720961 |
| 1.25 (.0492)   |  | 25                    | MD712346 |
| 1.28 (.0504)   |  | 28                    | MD712347 |
| 1.31 (.0516)   |  | 31                    | MD712348 |
| 1.34 (.0527)   |  | 34                    | MD712349 |
| 1.37 (.0539)   |  | 37                    | MD712329 |
| 1.40 (.0551)   |  | 40                    | MD712330 |
| 1.43 (.0563)   |  | 43                    | MD712331 |
| 1.46 (.0575)   |  | 46                    | MD712332 |
| 1.49 (.0587)   |  | 49                    | MD712333 |
| 1.52 (.0598)   |  | 52                    | MD712334 |
| 1.55 (.0610)   |  | 55                    | MD712335 |
| 1.58 (.0622)   |  | 58                    | MD712336 |
| 1.61 (.0634)   |  | 61                    | MD712337 |
| 1.64 (.0646)   |  | 64                    | MD712338 |
| 1.67 (.0657)   | 67   | MD712339              |          |
| 1.70 (.0669)   | 70   | MD712340              |          |
| 1.73 (.0681)   | 73   | MD712341              |          |

| Part name  | Thickness mm (in.)         | Identification symbol | Part No.  |
|--|----------------------------|-----------------------|-----------|
| Spacer: F5M31, F5M33<br>(For adjustment of output shaft end play)                          | 1.31 (.0516)               | E                     | MD706574  |
|  | 1.34 (.0527)               | O                     | MD710459  |
| Spacer: F4M21, F5M21, W5M31, W5M33<br>(For adjustment of front differential case end play) | 0.56 (.0220)               | 56                    | MD727658  |
|  | 0.65 (.0256)               | 65                    | MD727659  |
|  | 0.74 (.0291)               | 74                    | MD727660  |
|  | 0.83 (.0327)               | 83                    | MD720937  |
|  | 0.92 (.0362)               | 92                    | MD720940  |
|  | 1.01 (.0398)               | 01                    | MD720943  |
|  | 1.10 (.0433)               | J                     | MD710454  |
|  | 1.19 (.0468)               | L                     | MD710456  |
|  | 1.28 (.0504)               | N                     | MD710458  |
|  | 1.37 (.0539)               | P                     | MD710460  |
| Spacer: F5M22, F5M31, F5M33<br>(For adjustment of front differential case end play)        | 0.80 (.0315)               | 80                    | MD727661  |
|  | 0.83 (.0327)               | 83                    | MD720937  |
|  | 0.86 (.0338)               | 86                    | MD720938  |
|  | 0.89 (.0350)               | 89                    | MD720939  |
|  | 0.92 (.0362)               | 92                    | MD720940  |
|  | 0.95 (.0374)               | 95                    | MD720941  |
|  | 0.98 (.0386)               | 98                    | MD720942  |
| Spacer: F5M22, F5M31, F5M33<br>(For adjustment of front differential case end play)        | 1.01 (.0398)               | 01                    | MD720943  |
|  | 1.04 (.0409)               | 04                    | MD720944  |
|  | 1.07 (.0421)               | 07                    | MD720945  |
|  | 1.10 (.0433)               | J                     | MD71 0454 |
|  | 1.13 (.0445)               | D                     | MD700270  |
|  | 1.16 (.0457)               | K                     | MD710455  |
|  | 1.19 (.0468)               | L                     | MD71 0456 |
|  | 1.22 (.0480)               | G                     | MD700271  |
| Spacer<br>(For adjustment of front differential pinion backlash)                           | 0.75–0.82<br>(.0295–.0323) | —                     | MA180862  |
|  | 0.83–0.92<br>(.0327–.0362) | —                     | MA180861  |

| Part name  | Thickness mm (in.) | Identification symbol | Part No. |
|--|--------------------|-----------------------|----------|
| Spacer: F4M21, F5M21, F5M22<br>For adjustment of output shaft end play | 0.92 (.0362)       | 92                    | MD720952 |
|  | 0.95 (.0374)       | 95                    | MD720953 |
|  | 0.98 (.0386)       | 98                    | MD720954 |
|  | 1.01 (.0398)       | 01                    | MD720955 |
|  | 1.04 (.0409)       | 04                    | MD720956 |
|  | 1.07 (.0421)       | 07                    | MD720957 |
|  | 1.10 (.0433)       | 10                    | MD720958 |
|  | 1.13 (.0445)       | 13                    | MD720959 |
|  | 1.16 (.0457)       | 16                    | MD720960 |
|  | 1.19 (.0468)       | 19                    | MD720961 |
|  | 1.22 (.0480)       | 22                    | MD720362 |
|  | 1.25 (.0492)       | 25                    | MD712346 |
|  | 1.28 (.0504)       | 28                    | MD712347 |
|  | 1.31 (.0516)       | 31                    | MD712348 |
|  | 1.34 (.0527)       | 34                    | MD712349 |
| Spacer: F5M31, F5M33<br>For adjustment of output shaft end play        | 0.83 (.0327)       | 83                    | MD720937 |
|  | 0.86 (.0338)       | 86                    | MD720938 |
|  | 0.89 (.0350)       | 89                    | MD720939 |
|  | 0.92 (.0362)       | 92                    | MD720940 |
|  | 0.95 (.0374)       | 95                    | MD720941 |
|  | 0.98 (.0386)       | 98                    | MD720942 |
|  | 1.01 (.0398)       | 01                    | MD720943 |
|  | 1.04 (.0409)       | 04                    | MD720944 |
|  | 1.07 (.0421)       | 07                    | MD720945 |
|  | 1.10 (.0433)       | J                     | MD710454 |
|  | 1.13 (.0445)       | D                     | MD700270 |
|  | 1.16 (.0457)       | K                     | MD710455 |
|  | 1.19 (.0468)       | L                     | MD710456 |
|  | 1.22 (.0480)       | G                     | MD700271 |
|  | 1.25 (.0492)       | M                     | MD710457 |
| 1.28 (.0504)   | N                  | MD710458              |          |

| Part name   | Thickness mm (in.)         | Identification symbol | Part No.  |
|---|----------------------------|-----------------------|-----------|
| Snap ring: W5M31, W5M33<br>For adjustment of viscous coupling end play (with CU)]   | 1.8 (.071)                 | Yellow                | MD720690  |
|   | 1.9 (.075)                 | Green                 | MD727651  |
| Pacer: W5M31<br>For adjustment of center differential pinion backlash (front side)  | 0.59–0.66<br>(.0232–.0260) | 73                    | MD724973  |
|   | 0.67–0.74<br>(.0264–.0291) | 47                    | MD724947  |
|   | 0.75–0.82<br>(.0295–.0323) | 46                    | MD724946  |
|   | 0.83–0.92<br>(.0327–.0362) | 45                    | MD724945  |
|   | 0.93–1.00<br>(.0366–.0394) | 81                    | MD720681  |
|   | 1.01–1.08<br>(.0398–.0425) | 44                    | MD724944  |
|   | 1.09–1.16<br>(.0429–.0457) | 43                    | MD724943  |
|   | 1.1–1.24<br>(.0421–.0488)  | 42                    | MD724942  |
|   | 1.25–1.32<br>(.0492–.0520) | 72                    | MD724972  |
| Spacer: W5M33<br>For adjustment of center differential pinion backlash (front side) | 2.09–2.16<br>(.0823–.0850) | 0                     | MD741413  |
|   | 2.17–2.24<br>(.0854–.0882) | 9                     | MD741412  |
|   | 2.25–2.32<br>(.0886–.0913) | 8                     | MD741411  |
|   | 2.33–2.42<br>(.0917–.0953) | 7                     | MD741410  |
|   | 2.43–2.50<br>(.0957–.0984) | 6                     | MD741 409 |
|   | 2.51–2.58<br>(.0988–.1016) | 5                     | MD741408  |
|   | 2.59–2.66<br>(.1020–.1047) | 4                     | MD741 407 |
|   | 2.67–2.74<br>(.1050–.1079) | 3                     | MD741 406 |
|   | 2.75–2.82<br>(.1083–.1110) | 2                     | MD741 405 |
| Spacer: W5M31, W5M33<br>For adjustment of center differential case preload)         | 1.13 (.0445)               | 13                    | MD736928  |
|   | 1.16 (.0457)               | 16                    | MD736929  |
|   | 1.19 (.0468)               | 19                    | MD736751  |

F4M2, F5M2, F5M3, W5M3 – Specifications

22A-21

| part name   | Thickness mm (in.)         | Identification symbol | Part No. |
|---|----------------------------|-----------------------|----------|
| Spacer<br>For adjustment of front differential pinion backlash)                     | 0.93–1.00<br>(.0366–.0394) | —                     | MA180860 |
|   | 1.01–1.08<br>(.0398–.0425) | —                     | MA180875 |
|   | 1.09–1.16<br>(.0429–.0457) | —                     | MA180876 |
| Spacer:W5M31, W5M33<br>For adjustment of front output shaft preload)                | 1.28 (.0504)               | B28                   | MD726167 |
|   | 1.31 (.0516)               | B31                   | MD726168 |
|   | 1.34 (.0527)               | B34                   | MD726169 |
|   | 1.37 (.0539)               | B37                   | MD724326 |
|   | 1.40 (.0551)               | B40                   | MD724327 |
|   | 1.43 (.0563)               | B43                   | MD724328 |
|   | 1.46 (.0575)               | B46                   | MD724329 |
|   | 1.49 (.0587)               | B49                   | MD724330 |
|   | 1.52 (.0598)               | B52                   | MD724331 |
|   | 1.55 (.0610)               | B55                   | MD724332 |
|   | 1.58 (.0622)               | B58                   | MD724333 |
|   | 1.61 (.0634)               | B61                   | MD724334 |
|   | 1.64 (.0646)               | B64                   | MD724335 |
|   | 1.67 (.0657)               | B67                   | MD724336 |
|   | 1.70 (.0669)               | B70                   | MD724337 |
|   | 1.73 (.0681)               | B73                   | MD724338 |
|   | 1.76 (.0692)               | B76                   | MD724339 |
|   | 1.79 (.0705)               | B79                   | MD724340 |
|   | 1.82 (.0716)               | B82                   | MD724341 |
|   | 1.85 (.0728)               | B85                   | MD724342 |
| 1.88 (.0740)  | B88                        | MD724343              |          |
| 1.91 (.0751)  | B91                        | MD724344              |          |
| Snap ring: W5M31, W5M33<br>[For adjustment of viscous coupling end play (with VCU)] | 1.3 (.051)                 | Orange                | MD727650 |
|   | 1.4 (.055)                 | Red                   | MD720686 |
|   | 1.5 (.059)                 | Blue                  | MD720687 |
|   | 1.6 (.063)                 | None                  | MD720688 |
|   | 1.7 (.067)                 | White                 | MD720689 |

**22A-24**

**F4M2, F5M2, F5M3, W5M3 – Specifications**

| Part name   | Thickness mm (in.)   | Identification symbol | Part No. |
|---|--|-----------------------|----------|
| Spacer:W5M31, W5M33<br>(For adjustment of drive bevel gear mount) | 1.34 (.0528)   | 34                    | MD723600 |
|   | 1.37 (.0539)   | 37                    | MD723601 |
|   | 1.40 (.0551)   | 40                    | MD723602 |
|   | 1.43 (.0563)   | 43                    | MD723603 |
|   | 1.46 (.0575)   | 46                    | MD723604 |
|   | 1.49 (.0587)   | 49                    | MD723605 |
|   | 1.52 (.0598)   | 52                    | MD723606 |
|   | 1.55 (.0610)   | 55                    | MD723607 |
|   | 1.58 (.0622)   | 58                    | MD723608 |
|   | 1.61 (.0634)   | 61                    | MD723609 |
|   | 1.64 (.0646)   | 64                    | MD726170 |
|   | 1.67 (.0657)   | 67                    | MD726171 |
|   | Spacer: W5M31, W5M33<br>(For adjustment of drive bevel gear preload) | 1.28 (.0504)          | B28      |
| 1.31 (.0516)  |  | B31                   | MD726168 |
| 1.34 (.0528)  |  | B34                   | MD726169 |
| 1.37 (.0539)  |  | B37                   | MD724326 |
| 1.40 (.0551)  |  | B40                   | MD724327 |
| 1.43 (.0563)  |  | B43                   | MD724328 |
| 1.46 (.0575)  |  | B46                   | MD724329 |
| 1.49 (.0587)  |  | B49                   | MD724330 |
| 1.52 (.0598)  |  | B52                   | MD724331 |
| 1.55 (.0610)  |  | B55                   | MD724332 |
| 1.58 (.0622)  |  | B58                   | MD724333 |
| 1.61 (.0634)  |  | B61                   | MD724334 |
| 1.64 (.0646)  |  | B64                   | MD724335 |
| 1.67 (.0657)  |  | B67                   | MD724336 |
| 1.70 (.0669)  |  | B70                   | MD724337 |
| 1.73 (.0681)  | B73  | MD724338              |          |
| 1.76 (.0693)  | B76  | MD724339              |          |
| 1.79 (.0705)  | B79  | MD724340              |          |
| 1.82 (.0717)  | B82  | MD724341              |          |
| 1.85 (.0728)  | B85  | MD724342              |          |

F4M2, F5M2, F5M3, W5M3 – Specifications

22A-23

| Part name  | Thickness mm (in.)         | Identification symbol | Part No.  |
|--|----------------------------|-----------------------|-----------|
| Spacer: W5M31, W5M33<br>For adjustment of center differential case preload)                  | 1.22 (.0480)               | 22                    | MD736931  |
|  | 1.25 (.0492)               | 25                    | MD726166  |
|  | 1.28 (.0504)               | 28                    | MD718517  |
|  | 1.31 (.0516)               | 31                    | MD718518  |
|  | 1.34 (.0527)               | 34                    | MD718519  |
|  | 1.37 (.0539)               | 37                    | MD718520  |
|  | 1.40 (.0551)               | 40                    | MD718521  |
|  | 1.43 (.0563)               | 43                    | MD718522  |
|  | 1.46 (.0575)               | 46                    | MD718523  |
|  | 1.49 (.0587)               | 49                    | MD718524  |
|  | 1.52 (.0598)               | 52                    | MD718525  |
|  | 1.55 (.0610)               | 55                    | MD718526  |
|  | 1.58 (.0622)               | 58                    | MD718527  |
|  | 1.61 (.0634)               | 61                    | MD718528  |
|  | 1.64 (.0646)               | 64                    | MD718529  |
|  | 1.67 (.0657)               | 67                    | MD718530  |
|  | 1.70 (.0669)               | 70                    | MD718531  |
|  | 1.73 (.0681)               | 73                    | MD721 959 |
|  | 1.76 (.0692)               | 76                    | MD721960  |
|  | 1.79 (.0705)               | 79                    | MD721961  |
| Spacer: W5M31, W5M33<br>For adjustment of center differential pinion backlash,<br>(ear side) | 0.59–0.66<br>(.0232–.0260) | 74                    | MD724974  |
|  | 0.67–0.74<br>(.0264–.0291) | 50                    | MD724950  |
|  | 0.75–0.82<br>(.0295–.0323) | 80                    | MD720680  |
|  | 0.83–0.92<br>(.0327–.0362) | 79                    | MD720679  |
|  | 0.93–1.00<br>(.0366–0.394) | 78                    | MD720678  |
|  | 1.01–1.08<br>(.0398–.0425) | 76                    | MD720676  |
|  | 1.09–1.16<br>(.0429–.0457) | 77                    | MD720677  |
|  | 1.17-1.24<br>(.0421–.0488) | 49                    | MD724949  |




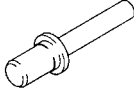
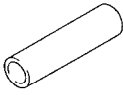
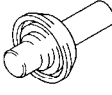
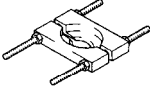
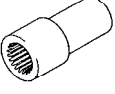
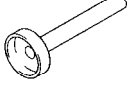

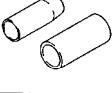
| Part name  | Thickness mm (in.) | Identification symbol | Part No. |
|--|--------------------|-----------------------|----------|
| Spacer:W5M31, W5M33<br>(For adjustment of driven bevel gear preload) | 1.73 (.0681)       | 73                    | MD722098 |
|  | 1.76 (.0693)       | 76                    | MD722099 |
|  | 1.79 (.0705)       | 79                    | MD722100 |
|  | 1.82 (.0717)       | 82                    | MD722101 |
|  | 1.85 (.0728)       | 85                    | MD722102 |
|  | 1.88 (.0740)       | 88                    | MD722103 |
|  | 1.91 (.0752)       | 91                    | MD722104 |
|  | 1.94 (.0764)       | 94                    | MD722105 |

### TORQUE SPECIFICATIONS

| Items   | Nm  | ft.lbs. |
|---|-----|---------|
| <b>Transaxle</b>                                      |     |         |
| Backup light switch                                   | 33  | 24      |
| Bearing retainer bolt                                 | 19  | 14      |
| Bell housing cover mounting bolt                      | 9   | 7       |
| Center differential lock actuator mounting bolt <AWD> | 19  | 14      |
| Center differential lock indicator lamp switch <AWD>  | 33  | 24      |
| Center differential shift lever mounting bolt <AWD>   | 19  | 14      |
| Differential drive gear bolt                          | 135 | 98      |
| Input shaft lock nut                                  | 150 | 109     |
| Interlock plate bolt                                  | 24  | 18      |
| Intermediate gear lock nut                            | 150 | 109     |
| Oil drain plug  | 33  | 24      |
| Oil filler plug                                       | 33  | 24      |
| Output gear mounting bolt                             | 75  | 55      |
| Poppet plug   | 36  | 27      |
| Rear cover bolt <AWD>                                 | 39  | 29      |
| Rear cover bolt <FWD>                                 | 19  | 14      |
| Restrict ball   | 33  | 24      |
| Reverse brake cone machine screw                      | 7   | 5       |
| Reverse idler gear shaft bolt                         | 49  | 36      |
| Reverse shift lever assembly attaching bolt           | 19  | 14      |
| Select lever mounting bolt                            | 19  | 14      |

| Part name   | Thickness mm (in.) | Identification symbol | Part No. |
|---|--------------------|-----------------------|----------|
| Spacer: W5M31, W5M33<br>For adjustment of driven bevel gear mount)    | 0.13 (.0051)       | 13                    | MD720353 |
|   | 0.16 (.0063)       | 16                    | MD720354 |
|   | 0.19 (.0075)       | 19                    | MD720355 |
|   | 0.22 (.0087)       | 22                    | MD720356 |
|   | 0.25 (.0098)       | 25                    | MD720357 |
|   | 0.28 (.0110)       | 28                    | MD720358 |
|   | 0.31 (.0122)       | 31                    | MD720359 |
|   | 0.34 (.0134)       | 34                    | MD720360 |
|   | 0.37 (.0146)       | 37                    | MD720361 |
|   | 0.40 (.0157)       | 40                    | MD720362 |
|   | 0.43 (.0169)       | 43                    | MD720363 |
|   | 0.46 (.0181)       | 46                    | MD720364 |
|   | 0.49 (.0193)       | 49                    | MD720365 |
|   | 0.52 (.0205)       | 52                    | MD720366 |
| Spacer: W5M31, W5M33<br>(For adjustment of driven bevel gear preload) | 1.19 (.0469)       | 19                    | MD726172 |
|   | 1.22 (.0480)       | 22                    | MD722081 |
|   | 1.25 (.0492)       | 25                    | MD722082 |
|   | 1.28 (.0504)       | 28                    | MD722083 |
|   | 1.31 (.0516)       | 31                    | MD722084 |
|   | 1.34 (.0528)       | 34                    | MD722085 |
|   | 1.37 (.0539)       | 37                    | MD722086 |
|   | 1.40 (.0551)       | 40                    | MD722087 |
|   | 1.43 (.0563)       | 43                    | MD722088 |
|   | 1.46 (.0575)       | 46                    | MD722089 |
|   | 1.49 (.0587)       | 49                    | MD722090 |
|   | 1.52 (.0598)       | 52                    | MD722091 |
|   | 1.55 (.0610)       | 55                    | MD722092 |
|   | 1.58 (.0622)       | 58                    | MD722093 |
|   | 1.61 (.0634)       | 61                    | MD722094 |
|   | 1.64 (.0646)       | 64                    | MD722095 |
|   | 1.67 (.0657)       | 67                    | MD722096 |
| 1.70 (.0669)  | 70                 | MD722097              |          |

## SPECIAL TOOLS

| Tool  | Tool number and name                        | Supersession         | Application  |
|---|---|----------------------|--|
|    | MD998304<br>Oil seal installer              | MD998304-01          | Installation of transfer extension housing oil seal                              |
|    | MD998321<br>Oil seal installer              | MD998321-01          | Installation of input shaft oil seal   |
|    | MD998323<br>Bearing installer               | MD998323-01          | Installation of input shaft bearing  |
|    | MD998325<br>Differential oil seal installer | MD998325-01          | Installation of differential oil seal  |
|    | MD998801<br>Bearing remover                 | MD998348-01          | Removal of gears and bearings of input shaft, intermediate gear and output shaft |
|    | MD998802<br>Input shaft holder              | MD998802-01          | Installation and removal of input shaft and intermediate gear lock nut           |
|   | MD998803<br>Differential oil seal installer | GENERAL SERVICE TOOL | Installation of differential oil seal <AWD>                                      |
|  | MD998806<br>Wrench adapter                  | MD998806-01          | Adjustment of tooth contact and inspection of turning drive torque <AWD>         |
|  | MD998808<br>Snap ring installer             | MD998808-01          | Installation of input shaft rear snap ring                                       |

| Items | Nm | ft.lbs. |
|-------|----|---------|
|-------|----|---------|



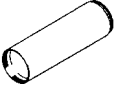






**Transaxle**

|   |           |           |
|---|-----------|-----------|
| Shift cable bracket mounting bolt             | 19        | 14        |
| Speedometer sleeve bolt                       | 4         | 3         |
| Starter motor mounting bolt                   | 27        | 20        |
| Stopper bracket bolt                          | 19        | 14        |
| Transaxle case tightening bolt                | 39        | 29        |
| Transaxle mount bracket mounting bolt         | 70        | 51        |
| Transaxle mounting bolt [10 mm diameter bolt] | 49        | 36        |
| Transaxle mounting bolt [8 mm diameter bolt]  | 27        | 20        |
| Transaxle mounting bolt [6 mm diameter bolt]  | 11        | 8         |
| Transaxle switch <FWD>                        | <b>33</b> | <b>24</b> |

**Transfer**

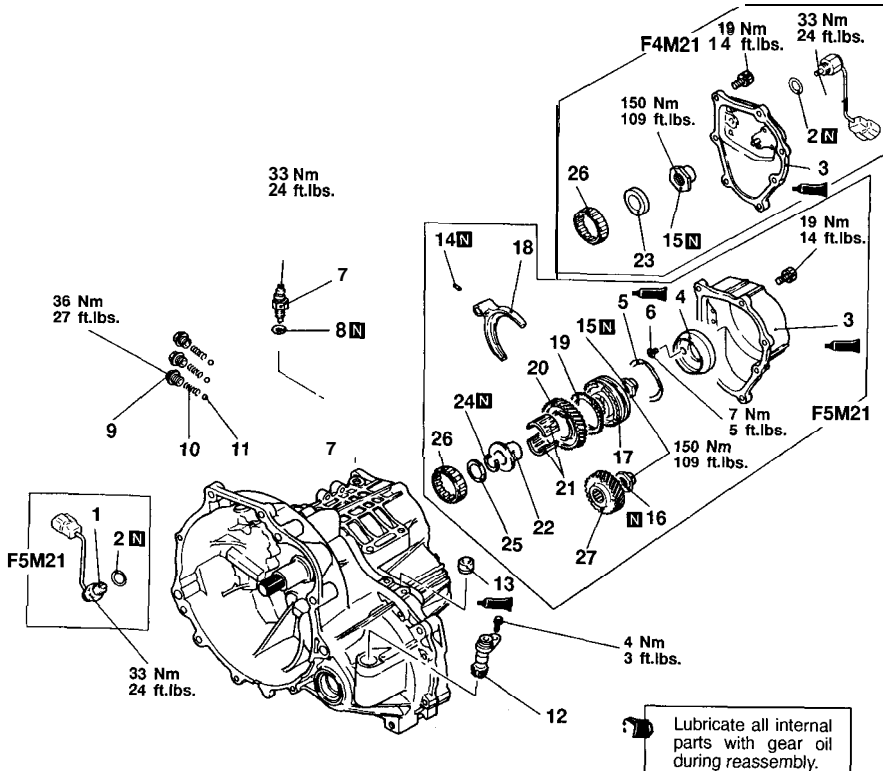
|                                     |     |     |
|-------------------------------------|-----|-----|
| Cover mounting bolt                 | 9   | 7   |
| Driven bevel gear nut               | 150 | 109 |
| Extension housing                   | 19  | 14  |
| Oil drain plug                      | 33  | 24  |
| Oil filler plug                     | 33  | 24  |
| Transfer case adapter mounting bolt | 39  | 29  |
| Transfer cover mounting bolt        | 39  | 29  |
| Transfer mounting bolt              | 59  | 42  |

| ool | Tool number and name               | Supersession            | Application  |
|-----|------------------------------------|-------------------------|--|
|     | MD998824<br>Installer adapter (50) | GENERAL<br>SERVICE TOOL | Installation of each bearing                                 |
|     | MD998825<br>Installer adapter (52) | GENERAL<br>SERVICE TOOL |  |
|     | MD998827<br>Installer adapter (56) | MD998827                |  |
|     | MD998833<br>Oil seal installer     | MD998323-01             | Installation of transfer case oil seal                       |
|     | MD998834<br>Special spanner        | MD998834                | Installation and removal of driven bevel gear lock nut <AWD> |
|     | MD998917<br>Bearing remover        | MD998917                | Removal of intermediate gear bearing                         |
|     | MD999566<br>Claw                   | GENERAL<br>SERVICE TOOL | Removal of bearing outer race                                |
|     | MB990326<br>Preload socket         | GENERAL<br>SERVICE TOOL | Measurement of drive bevel gear shaft rotating torque <AWD>  |
|     | MB990938<br>Handle                 | MD998323-01             | Installation of transfer case oil seal                       |

| Tool  | Tool number and name                      | Supersession            | Application                        |
|---|---|-------------------------|------------------------------------|
|    | <b>MD998812</b><br>Installer cap          | GENERAL<br>SERVICE TOOL | Use with installer and adapter     |
|    | <b>MD998813</b><br>Installer – 100        | GENERAL<br>SERVICE TOOL | Use with installer cap and adapter |
|    | <b>MD998814</b><br>Installer – 200        | MIT3041 80              | Use with installer cap and adapter |
|    | <b>MD998816</b><br>Installer adapter (30) | GENERAL<br>SERVICE TOOL | Installation of each bearing       |
|    | <b>MD998817</b><br>Installer adapter (34) | GENERAL<br>SERVICE TOOL |                                    |
|    | <b>MD998818</b><br>Installer adapter (38) | MD998818                |                                    |
|    | <b>MD998819</b><br>Installer adapter (40) | MD998819                |                                    |
|  | <b>MD998820</b><br>Installer adapter (42) | MIT 215013              |                                    |
|  | <b>MD998822</b><br>Installer adapter (46) | MD998822-01             |                                    |

TRANSAXLE

DISASSEMBLY AND REASSEMBLY – F4M21, F5M21



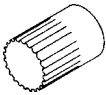
ZTFM0344

Disassembly steps

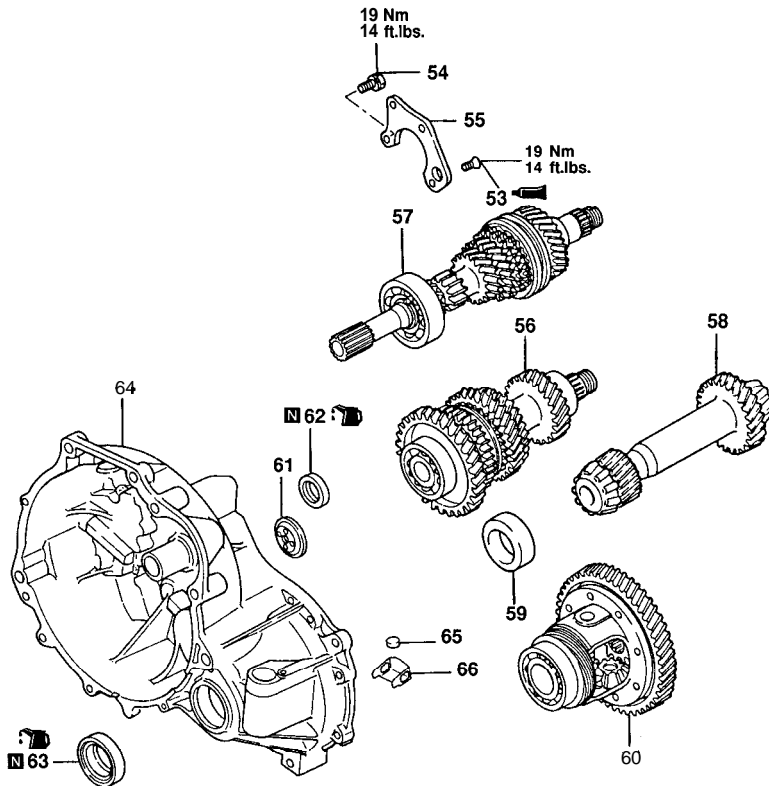
- 1. Transaxle switch
- 2. Gasket
- ▶Q◀ 3. Rear cover
- 4. Reverse brake cone
- ▶Z◀ ▶R◀ 5. Wave spring <From MODEL 1993>
- ▶R◀ 6. Machine screw <From MODEL 1993>
- 7. Backup light switch
- 8. Gasket
- 9. Poppet plug
- 10. Poppet spring
- 11. Poppet ball
- ▶P◀ ▶O◀ 12. Speedometer driven gear assembly
- ▶P◀ ▶O◀ 13. Air breather
- ▶P◀ ▶O◀ 14. Spring pin


- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 15. Lock nut
- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 16. Lock nut
- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 17. 5th speed synchronizer assembly
- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 18. 5th speed shift fork
- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 19. Synchronizer ring
- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 20. 5th speed gear
- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 21. Needle bearing
- ▶A◀ ▶A◀ ▶N◀ ▶N◀ 22. Bearing sleeve
- ▶M◀ ▶L◀ 23. Dished washer
- ▶M◀ ▶L◀ 24. Snap ring
- ▶M◀ ▶L◀ 25. Spacer
- ▶M◀ ▶L◀ 26. Roller bearing
- ▶M◀ ▶L◀ 27. 5th speed intermediate gear

**F4M2, F5M2, F5M3, W5M3 – Special Tools****22A-31**

| Tool  | Tool number and name               | Supersession | Application   |
|---|------------------------------------|--------------|---|
|  | MB991144<br>Side gear holding tool | MB991144     | Measurement of drive bevel gear shaft rotating torque <AWD> |



















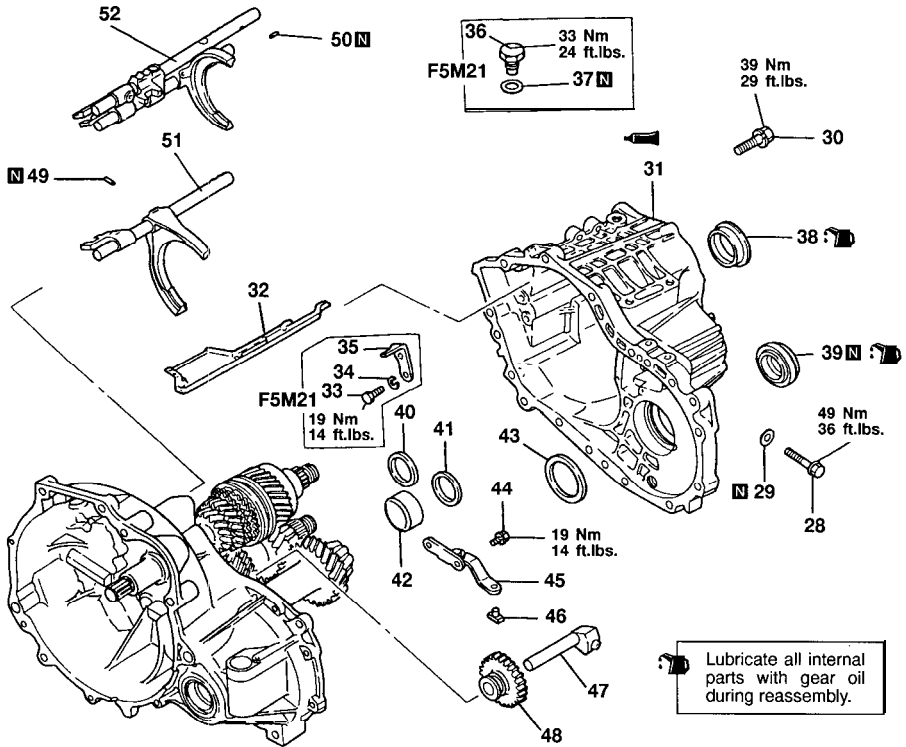


 Lubricate all internal parts with gear oil during reassembly.

ZTFM0068

**Disassembly steps**

-  53. Bolt
-  54. Bolt
-  55. Bearing retainer
-   56. Intermediate gear assembly
-   57. Input shaft assembly
-  58. Output shaft assembly
-  59. Bearing outer race
-  60. Differential gear assembly
-  61. Oil guide
-  62. Oil seal
-  63. Oil seal
-  64. Clutch housing assembly
-  65. Magnet
-  66. Magnet holder

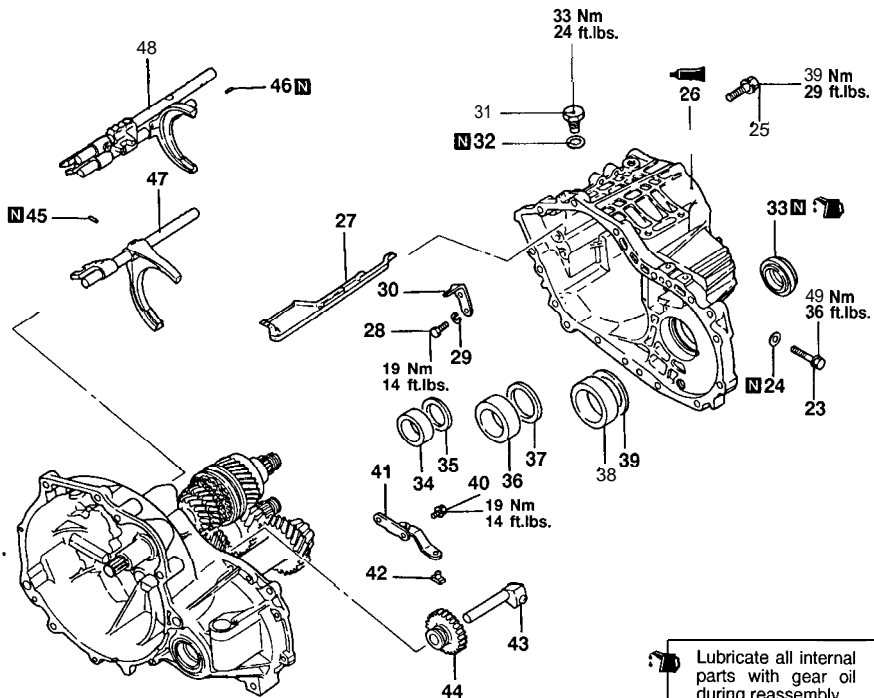


Z2010008

Disassembly steps

- ▶K◀ 28. Reverse idler gear shaft bolt
- ▶J◀ 29. Gasket
- ▶J◀ 30. Bolt
- ▶J◀ 31. Transaxle case
- ▶J◀ 32. Oil guide
- ▶J◀ 33. Bolt
- ▶J◀ 34. Spring washer
- ▶J◀ 35. Stopper bracket
- ▶J◀ 36. Restrict ball assembly
- ▶J◀ 37. Gasket
- ▶J◀ 38. Outer ring
- ▶J◀ 39. Oil seal
- ▶H◀ 40. Spacer

- ▶H◀ 41. Spacer
- ▶H◀ 42. Bearing outer race
- ▶H◀ 43. Spacer
- ▶H◀ 44. Bolt
- ▶G◀ 45. Reverse shift lever assembly
- ▶G◀ 46. Reverse shift lever shoe
- ▶G◀ 47. Reverse idler gear shaft
- ▶F◀ 48. Reverse idler gear
- ▶F◀ 49. Spring pin
- ▶F◀ 50. Spring pin
- ▶B◀ 51. Shift rail assembly
- ▶B◀ 52. Shift rail assembly



Lubricate all internal parts with gear oil during reassembly.

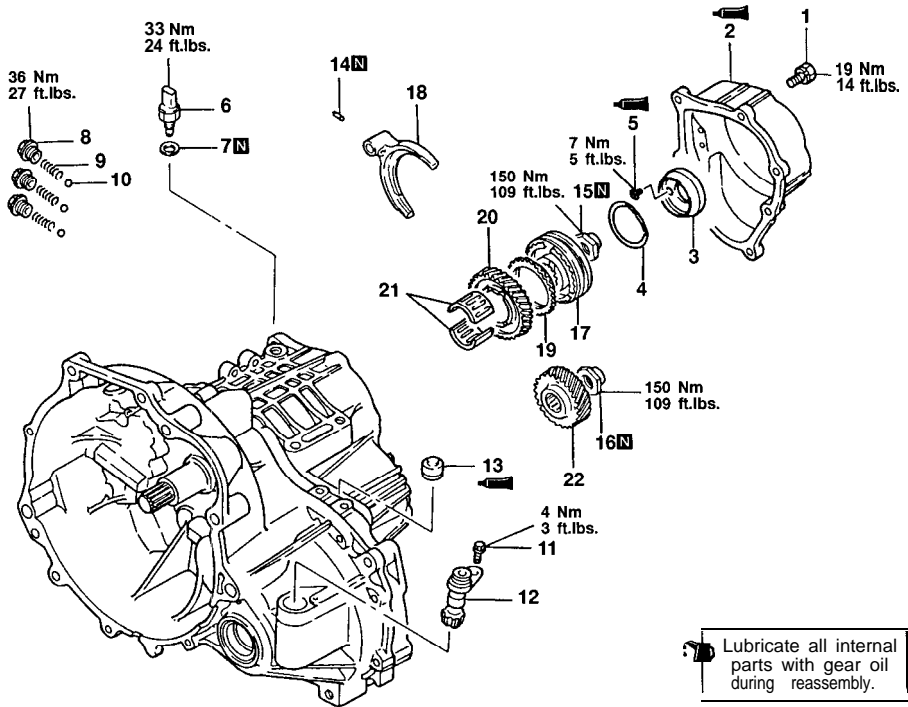
Z206003

**Disassembly steps**

- ▶K◀ 23. Reverse idler gear shaft bolt
- ▶K◀ 24. Gasket
- ▶J◀ 25. Bolt
- ▶J◀ 26. Transaxle case
- ▶J◀ 27. Oil guide
- ▶J◀ 28. Bolt
- ▶J◀ 29. Spring washer
- ▶J◀ 30. Stopper bracket
- ▶J◀ 31. Restrict ball assembly
- ▶J◀ 32. Gasket
- ▶I◀ 33. Oil seal
- ▶H◀ 34. Bearing outer race
- ▶H◀ 35. Spacer

- ▶H◀ 36. Bearing outer race
- ▶H◀ 37. Spacer
- ▶H◀ 38. Bearing outer race
- ▶H◀ 39. Space
- ▶H◀ 40. Bolt
- ▶G◀ 41. Reverse shift lever assembly
- ▶G◀ 42. Reverse shift lever shoe
- ▶G◀ 43. Reverse idler gear shaft
- ▶G◀ 44. Reverse idler gear
- ▶F◀ 45. Spring pin
- ▶F◀ 46. Spring pin
- ▶B◀ 47. Shift rail assembly
- ▶B◀ 48. Shift rail assembly

DISASSEMBLY AND REASSEMBLY – F5M22

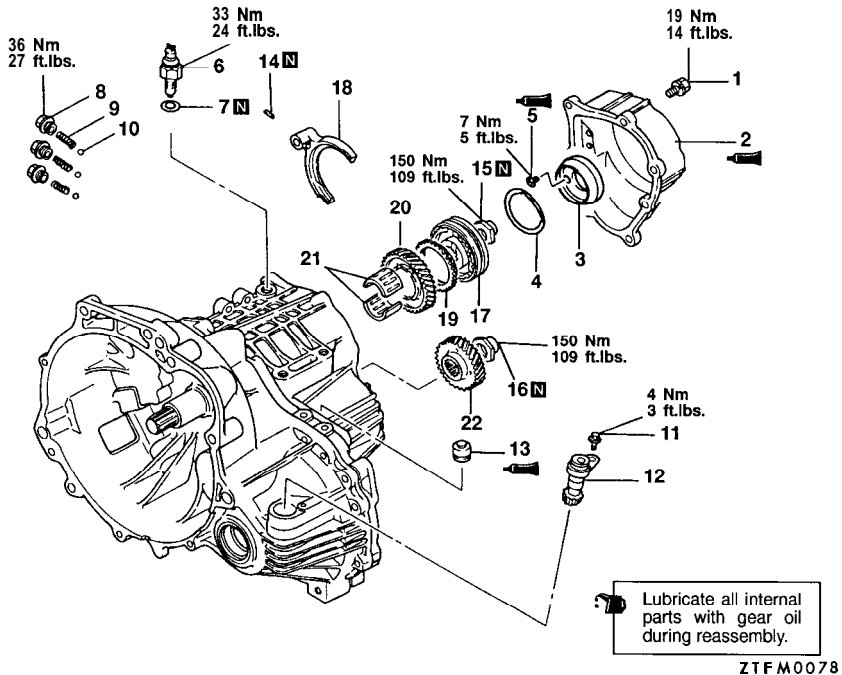


ZTFM0016

**Disassembly steps**

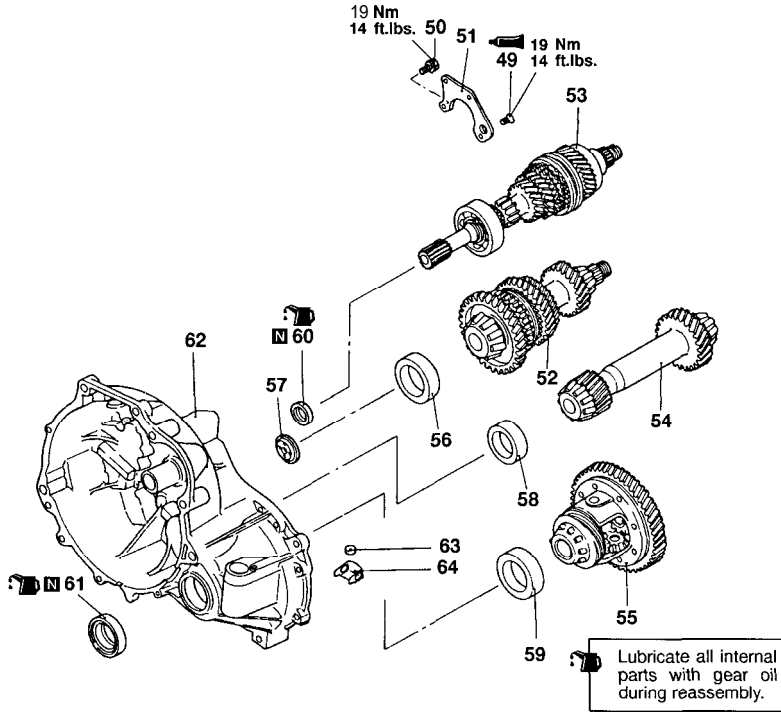
- |   |   |
|---|---|
| <p>  1. Bolt<br/>  2. Rear cover<br/>  3. Reverse brake cone<br/>  4. Wave spring<br/>  5. Machine screw<br/>  6. Backup light switch<br/>  7. Gasket<br/>  8. Poppet plug<br/>  9. Poppet spring<br/>  10. Poppet ball<br/>  11. Bolt                 </p> | <p>  12. Speedometer driven gear assembly<br/>  13. Air breather<br/>  14. Spring pin<br/>  15. Lock nut<br/>  16. Lock nut<br/>  17. 5th speed synchronizer assembly<br/>  18. 5th speed shift fork<br/>  19. Synchronizer ring<br/>  20. 5th speed gear<br/>  21. Needle bearing<br/>  22. 5th speed intermediate gear                 </p> |
|---|---|

DISASSEMBLY AND REASSEMBLY – F5M31



Disassembly steps

- |     |                        |     |                                      |
|-----|------------------------|-----|--------------------------------------|
| ▶Q◀ | 1. Bolt                | ▶P  | 12. Speedometer driven gear assembly |
| ▶Z◀ | 2. Rear cover          | ▶O  | 13. Air breather                     |
| ▶R◀ | 3. Reverse brake cone  | ▶N◀ | 14. Spring pin                       |
|     | 4. Wave spring         | ▶A◀ | 15. Lock nut                         |
|     | 5. Machine screw       | ▶A◀ | 16. Lock nut                         |
|     | 6. Gasket light switch |     | 17. 5th speed synchronizer assembly  |
|     | 7. Poppet spring       |     | 18. 5th speed shift fork             |
|     | 8. Poppet ball         |     | 19. Synchronizer ring                |
|     | 9. Bolt                |     | 20. 5th speed gear                   |
|     |                        |     | 21. Needle bearing                   |
|     |                        |     | 22. 5th speed intermediate gear      |

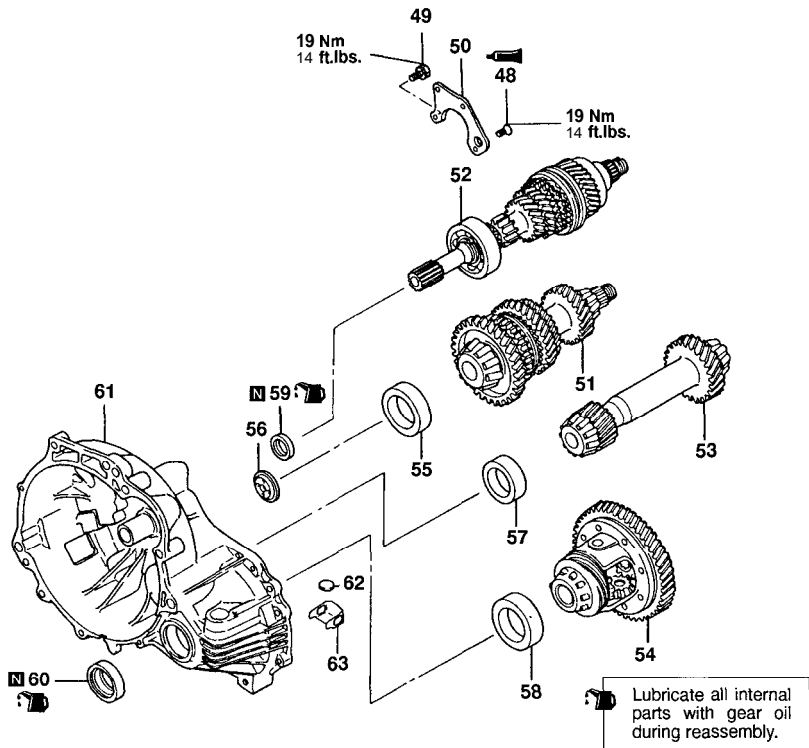


ZTFM0064

Disassembly steps

- ▶▶ D 49. Bolt
- ▶▶ 50. Bolt
- ▶▶ C 51. Bearing retainer
- ▶▶ C 52. Intermediate gear assembly
- ▶▶ C 53. Input shaft assembly
- ▶▶ 54. Output shaft assembly
- ▶▶ 55. Differential gear assembly
- ▶▶ 56. Bearing outer race
- ▶▶ 57. Oil guide
- ▶▶ 58. Bearing outer race
- ▶▶ 59. Bearing outer race
- ▶▶ B 60. Oil seal
- ▶▶ A 61. Oil seal
- ▶▶ 62. Clutch housing assembly
- ▶▶ 63. Magnet
- ▶▶ 64. Magnet holder

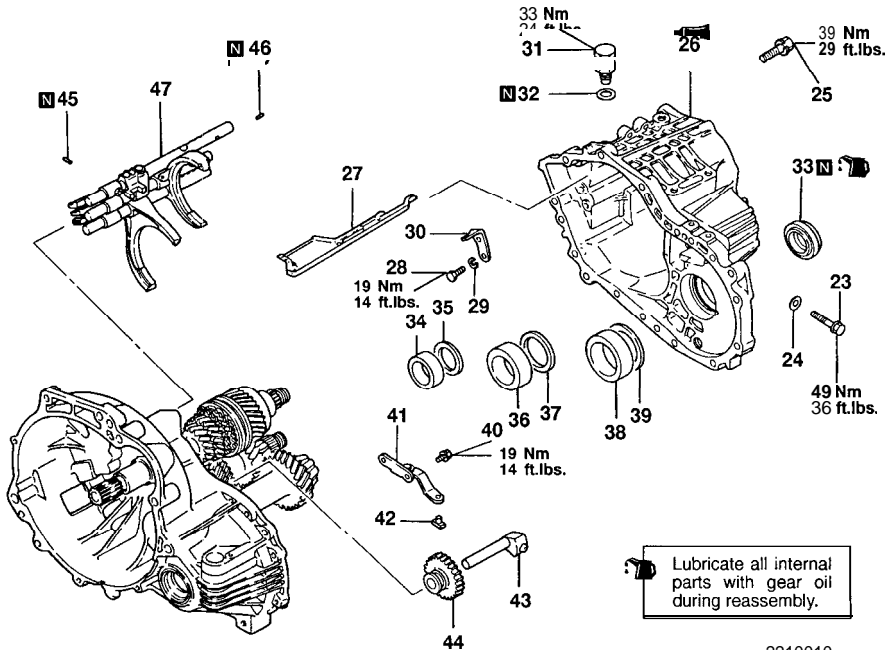
TSB Revision



ZTFM0079

Disassembly steps

- ▶D◀ 48. Bolt
- ▶D◀ 49. Bolt
- ▶C◀ ▶C◀ 50. Bearing retainer
- ▶C◀ ▶C◀ 51. Intermediate gear assembly
- ▶C◀ ▶C◀ 52. Input shaft assembly
- ▶B◀ ▶A◀ 53. Output shaft assembly
- ▶B◀ ▶A◀ 54. Differential gear assembly
- ▶B◀ ▶A◀ 55. Bearing outer race
- ▶B◀ ▶A◀ 56. Oil guide
- ▶B◀ ▶A◀ 57. Bearing outer race
- ▶B◀ ▶A◀ 58. Bearing outer race
- ▶B◀ ▶A◀ 59. Oil seal
- ▶B◀ ▶A◀ 60. Oil seal
- ▶B◀ ▶A◀ 61. Clutch housing assembly
- ▶B◀ ▶A◀ 62. Magnet
- ▶B◀ ▶A◀ 63. Magnet holder



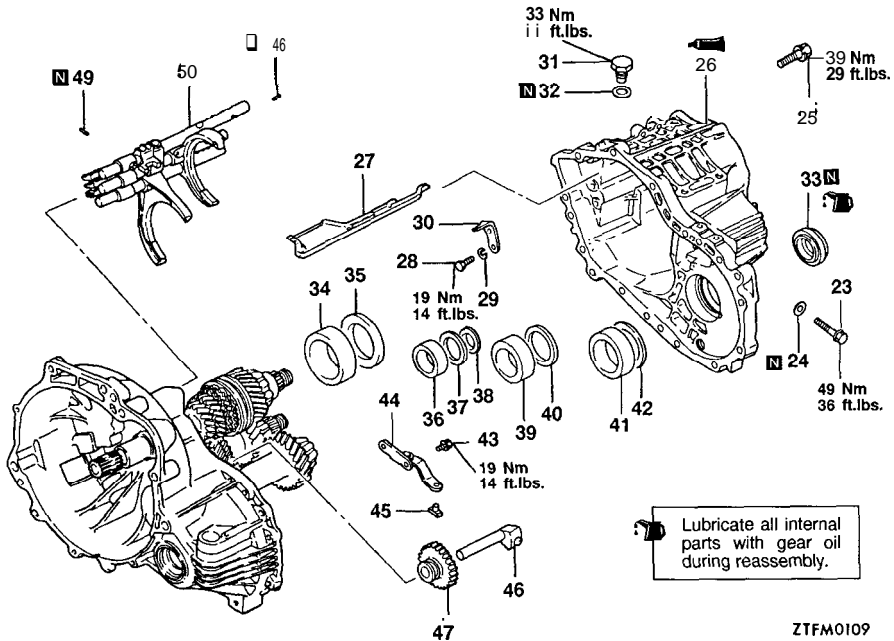
2210010

**Disassembly steps**

- ▶K◀ 23. Reverse idler gear shaft bolt
- ▶J◀ 24. Gasket
- ▶J◀ 25. Bolt
- ▶J◀ 26. Transaxle case
- 27. Oil guide
- 28. Bolt
- 29. Spring washer
- 30. Stopper bracket
- 31. Restrict ball assembly
- 32. Gasket
- ▶I◀ 33. Oil seal
- ▶H◀ 34. Bearing outer race
- ▶H◀ 35. Spacer

- ▶H◀ 36. Bearing outer race
- ▶H◀ 37. Spacer
- ▶H◀ 38. Bearing outer race
- ▶H◀ 39. Space
- 40. Bolt
- ▶G◀ 41. Reverse shift lever assembly
- ▶G◀ 42. Reverse shift lever shoe
- ▶F◀ 43. Reverse idler gear shaft
- ▶F◀ 44. Reverse idler gear
- ▶F◀ 45. Spring pin
- ▶F◀ 46. Spring pin
- ▶B▶▶E◀ 47. Shift rail assembly





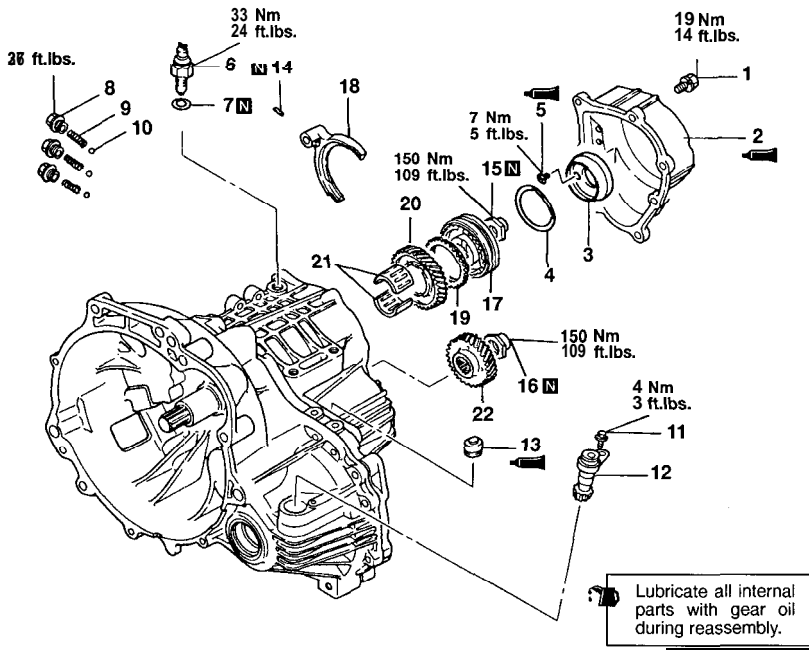
ZTFM0109

**Disassembly steps**

- ▶K◀ 23. Reverse idler gear shaft bolt
- ▶J◀ 24. Gasket
- ▶J◀ 25. Bolt
- ▶J◀ 26. Transaxle case
- ▶J◀ 27. Oil guide
- ▶J◀ 28. Bolt
- ▶J◀ 29. Spring washer
- ▶J◀ 30. Stopper bracket
- ▶J◀ 31. Restrict ball assembly
- ▶J◀ 32. Gasket
- ▶I◀ 33. Oil seal
- ▶H◀ 34. Bearing outer race
- ▶H◀ 35. Spacer
- ▶H◀ 36. Bearing outer race

- ▶H◀ 37. Spacer
- ▶H◀ 38. Filter
- ▶H◀ 39. Bearing outer race
- ▶H◀ 40. Spacer
- ▶H◀ 41. Bearing outer race
- ▶H◀ 42. Space
- ▶G◀ 43. Bolt
- ▶G◀ 44. Reverse shift lever assembly
- ▶G◀ 45. Reverse shift lever shoe
- ▶G◀ 46. Reverse idler gear shaft
- ▶F◀ 47. Reverse idler gear
- ▶F◀ 48. Spring pin
- ▶F◀ 49. Spring pin
- ◀B▶ 50. Shift rail assembly

DISASSEMBLY AND REASSEMBLY – F5M33



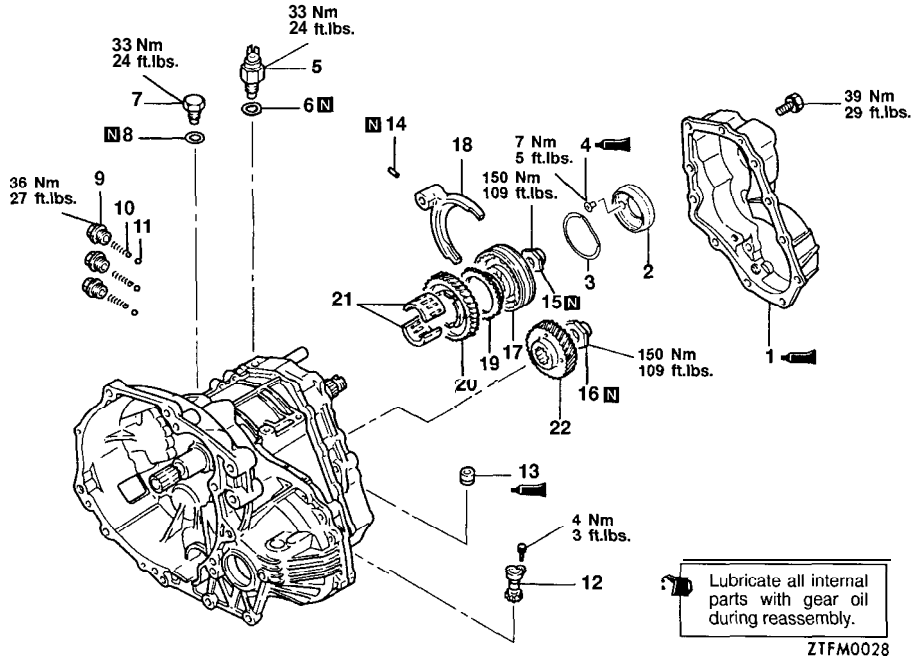
ZTF M0078

Disassembly steps

- ▶Q◀ 1. Bolt
- ▶Q◀ 2. Rear cover
- ▶Z◀ 3. Reverse brake cone
- ▶R◀ 4. Wave spring
- ▶R◀ 5. Machine screw
- 6. Backup light switch
- 7. Gasket
- 8. Poppet plug
- 9. Poppet spring
- 10. Poppet ball
- 11. Bolt

- ▶P◀ 12. Speedometer driven gear assembly
- ▶O◀ 13. Air breather
- ▶N◀ 14. Spring pin
- ▶A◀ 15. Lock nut
- ▶A◀ 16. Lock nut
- 17. 5th speed synchronizer assembly
- 18. 5th speed shift fork
- 19. Synchronizer ring
- 20. 5th speed gear
- 21. Needle bearing
- 22. 5th speed intermediate gear

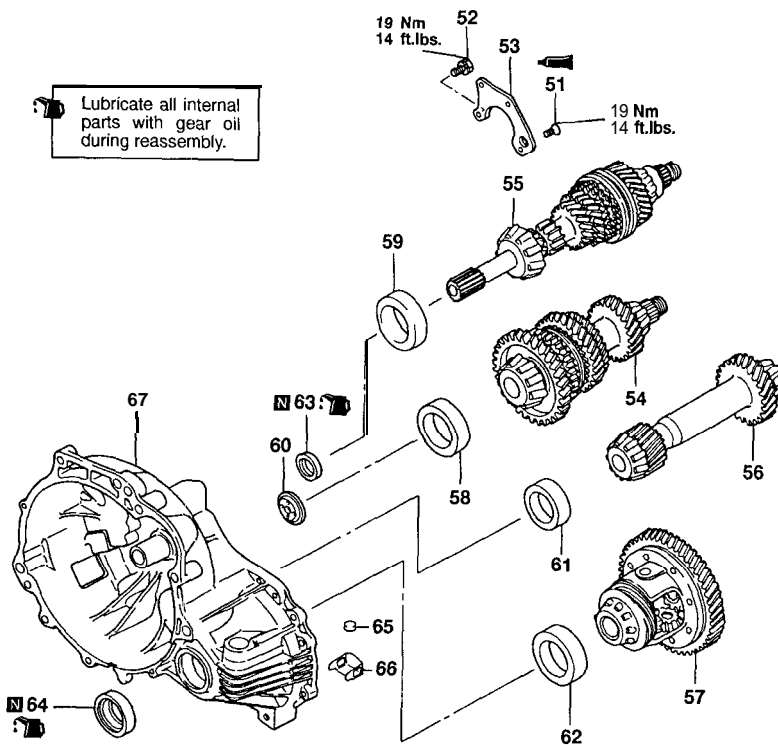
DISASSEMBLY AND REASSEMBLY – W5M31



ZTFM0028

Disassembly steps

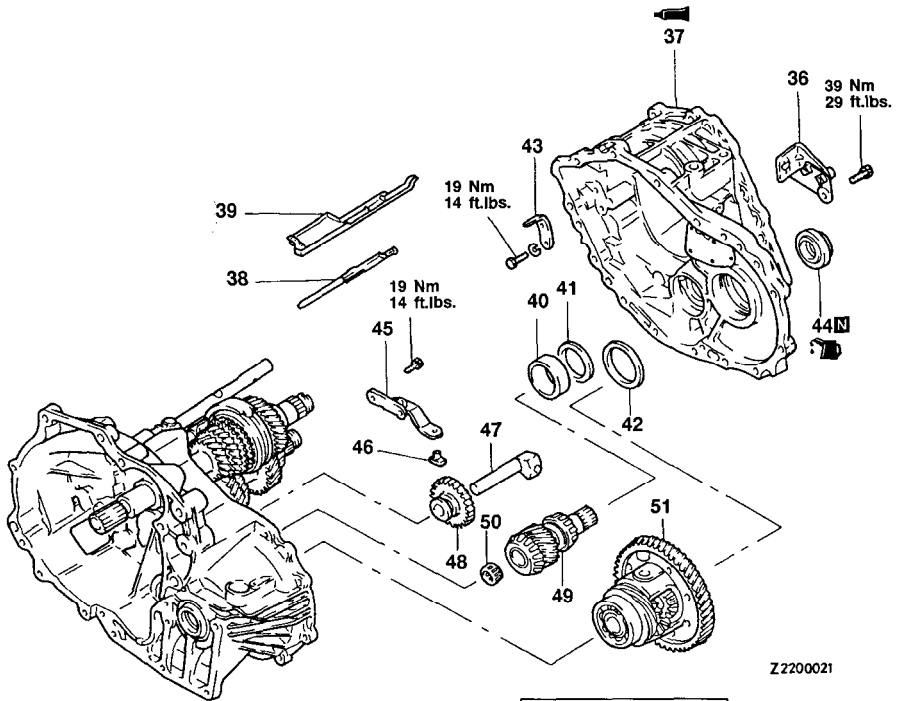
- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>▶Q◀ 1. Rear cover</li> <li>▶Z◀ 2. Reverse bracket cone</li> <li>▶R◀ 3. Wave spring</li> <li>▶ 4. Machine screw</li> <li>▶ 5. Backup light switch</li> <li>▶ 6. Gasket</li> <li>▶ 7. Restrict ball assembly</li> <li>▶ 8. Gasket</li> <li>▶ 9. Poppet spring</li> <li>▶ 11. Poppet ball</li> </ul> | <ul style="list-style-type: none"> <li>▶P◀ 12. Speedometer driven gear assembly</li> <li>▶O◀ 13. Air breather</li> <li>▶ 14. Spring pin</li> <li>▶N◀ 15. Lock nut</li> <li>▶N◀ 16. Lock nut</li> <li>▶ 17. 5th speed synchronizer assembly</li> <li>▶ 18. Shift fork</li> <li>▶ 19. Synchronizer ring</li> <li>▶ 20. 5th speed gear</li> <li>▶ 22. 5th speed intermediate gear</li> </ul> |
|--|---|




ZTFM0026

**Disassembly steps**

- ▶D◀ 51. Bolt
- ▶D◀ 52. Bolt
- ▶C◀ 53. Bearing retainer
- ▶C◀ 54. Intermediate gear assembly
- ▶C◀ 55. Input shaft assembly
- ▶C◀ 56. Output shaft assembly
- ▶C◀ 57. Differential gear assembly
- ▶B◀ 58. Bearing outer race
- ▶B◀ 59. Bearing outer race
- ▶A◀ 60. Oil guide
- ▶A◀ 61. Bearing outer race
- ▶A◀ 62. Bearing outer race
- ▶A◀ 63. Oil seal
- ▶A◀ 64. Oil seal
- ▶A◀ 65. Magnet
- ▶A◀ 66. Magnet holder
- ▶A◀ 67. Clutch housing assembly



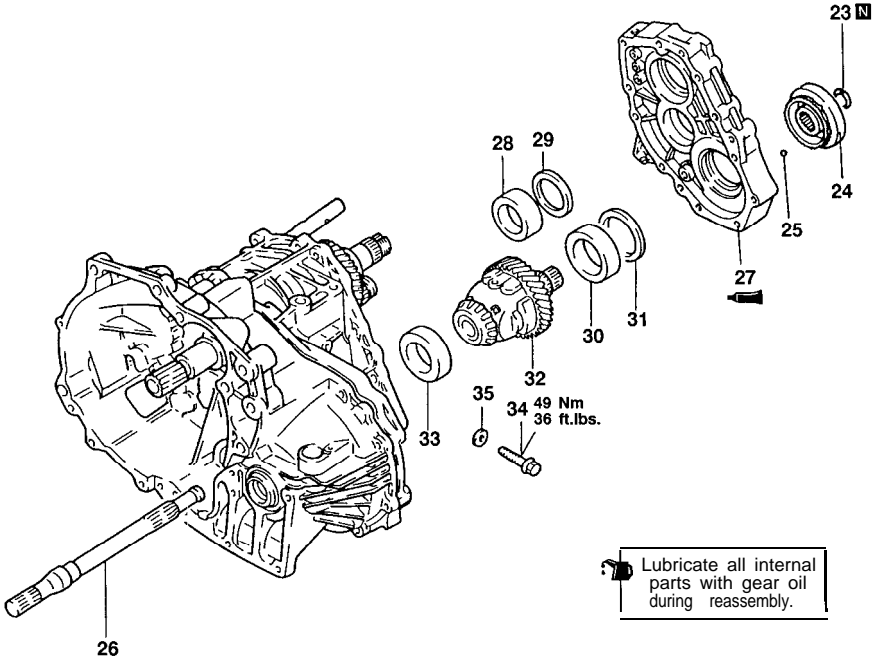
Z2200021

 Lubricate all internal parts with gear oil during reassembly.

**Disassembly steps**

- ▶◀ 36. Clutch oil line bracket
- ▶◀ 37. Transaxle case
- ▶◀ 38. Oil guide
- ▶◀ 39. Oil guide
- ▶◀ 40. Bearing outer race
- ▶◀ 41. Spacer
- ▶◀ 42. Spacer
- ▶◀ 43. Stopper bracket

- ▶◀ 44. Oil seal
- ▶◀ 45. Reverse shift lever assembly
- ▶◀ 46. Reverse shift lever shoe
- ▶◀ 47. Reverse idler gear shaft
- ▶◀ 48. Reverse idler gear
- ▶◀ 49. Front output shaft
- ▶◀ 50. Needle bearing
- ▶◀ 51. Front differential



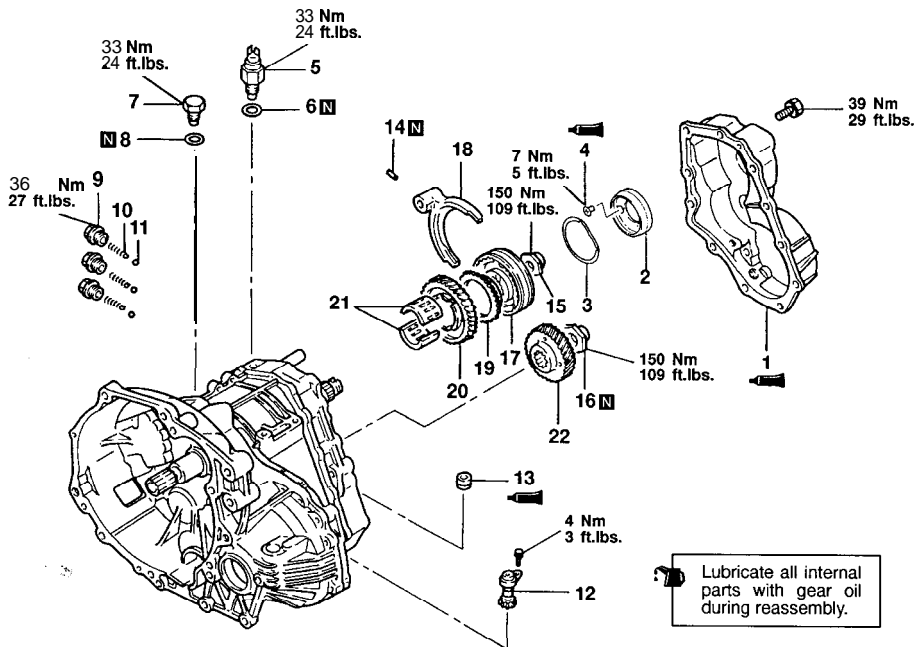
Lubricate all internal parts with gear oil during reassembly.

ATFM0332

Disassembly steps

- ▶Y◀ 23. Snap ring
- ▶X◀ 24. Viscous coupling
- ▶X◀ 25. Steel ball
- ▶W▶ 26. Center shaft
- ▶W▶ 27. Transaxle case adapter assembly
- ▶V◀ 28. Searing outer race
- ▶V◀ 29. Spacer
- ▶V◀ 30. Bearing outer race
- ▶V◀ 31. Spacer
- ▶D▶ 32. Center differential
- ▶K▶ 33. Bearing outer race
- ▶K▶ 34. Reverse idler gear shaft bolt
- ▶K▶ 35. Gasket

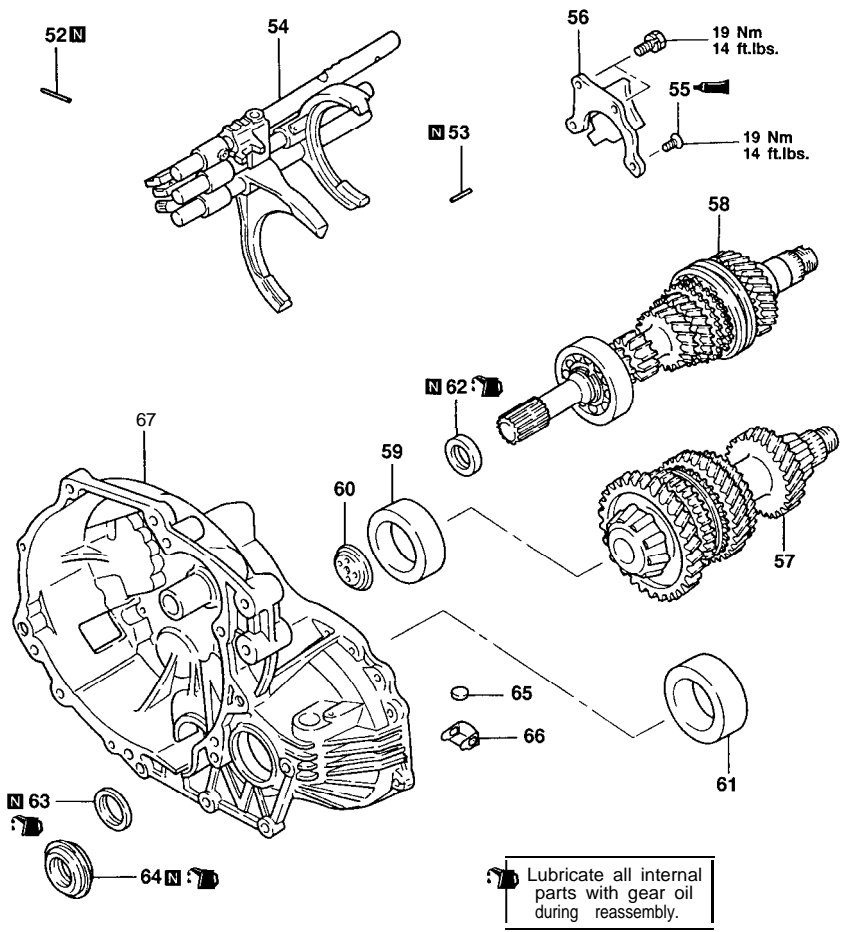
DISASSEMBLY AND REASSEMBLY – W5M33



ZTFM0028

Disassembly steps

- ▶Q◀ 1. Rear cover
- ▶Z◀ 2. Reverse bracket cone
- ▶R◀ 3. Wave spring
- ▶A▶▶ 4. Machine screw
- ▶A▶▶ 5. Backup light switch
- ▶A▶▶ 6. Gasket
- ▶A▶▶ 7. Restrict ball assembly
- ▶A▶▶ 8. Gasket
- ▶A▶▶ 9. Poppet plug
- ▶A▶▶ 10. Poppet spring
- ▶A▶▶ 11. Poppet ball
- ▶P▶▶▶ 12. Speedometer driven gear assembly
- ▶O▶▶▶ 13. Air breather
- ▶A▶▶▶ 14. Spring pin
- ▶A▶▶▶ 15. Lock nut
- ▶A▶▶▶ 16. Lock nut
- ▶A▶▶▶ 17. 5th speed synchronizer assembly
- ▶A▶▶▶ 18. Shift fork
- ▶A▶▶▶ 19. Synchronizer ring
- ▶A▶▶▶ 20. 5th speed gear
- ▶A▶▶▶ 21. Needle bearing
- ▶A▶▶▶ 22. 5th speed intermediate gear



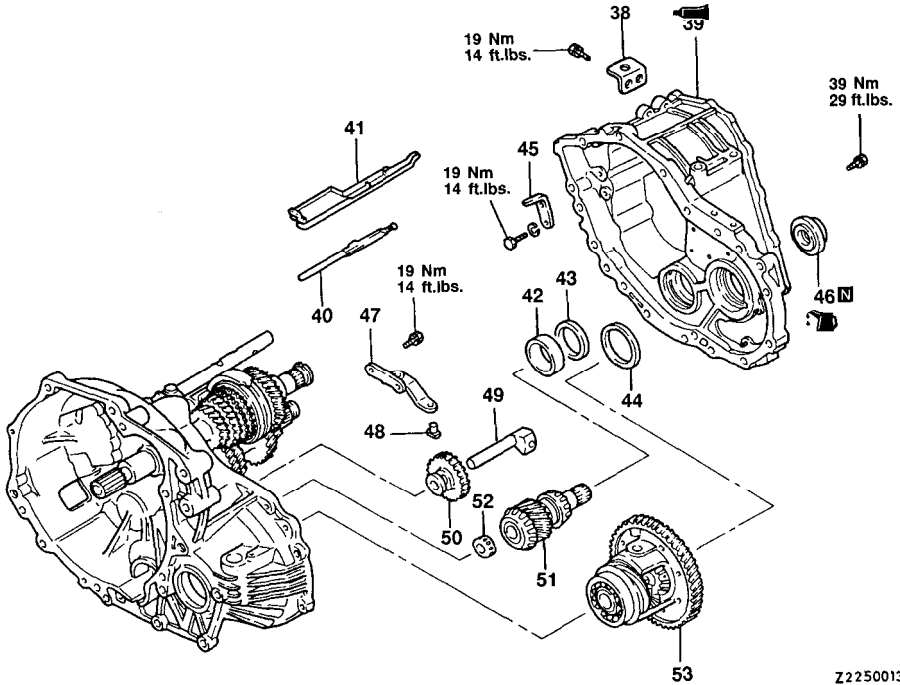
ZTFM0065

**Disassembly steps**

- 52. Spring pin
- 53. Spring pin
- 54. Shift rail assembly
- 56. Bearing retainer
- 57. Intermediate gear assembly
- 58. Input shaft assembly
- 59. Outer race

- 60. Oil guide
- 61. Outer race
- 62. Oil seal
- 63. Oil seal
- 64. Oil seal
- 65. Magnet
- 66. Magnet holder
- 67. Magnet Clutchhousing

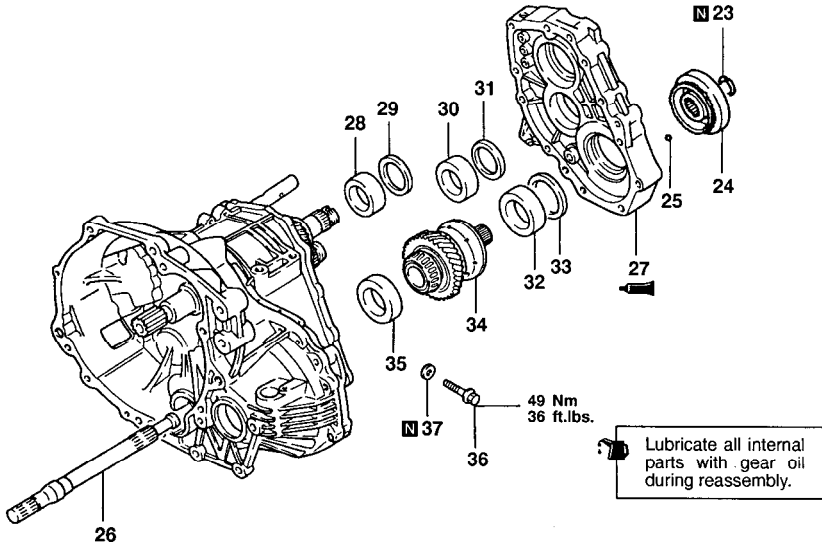




Z2250013

Disassembly steps

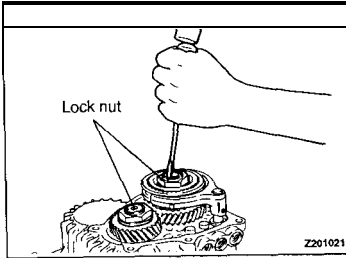
- ▶◀ 38. Clutch oil line bracket
- ▶◀ 39. Transaxle case
- ▶◀ 40. Oil guide
- ▶◀ 41. Oil guide
- ▶◀ 42. Outer race
- ▶◀ 43. Spacer
- ▶◀ 44. Spacer
- ▶◀ 45. Stopper bracket
- ▶◀ 46. Oil seal
- ▶◀ 47. Reverse shift lever assembly
- ▶◀ 48. Reverse shift lever shoe
- ▶◀ 49. Reverse idler gear shaft
- ▶◀ 50. Reverse idler gear
- ▶◀ 51. Front output shaft assembly
- ▶◀ 52. Needle bearing
- ▶◀ 53. Front differential



YTFM0029

**Disassembly steps**

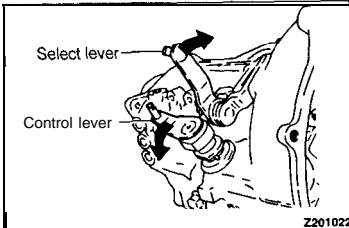
- ▶Y◀ 23. Snap ring
- ▶X◀ 24. Viscous coupling
- ▶X◀ 25. Steel ball
- ▶W◀ 26. Center shaft
- ◀D▶ 27. Transaxle case adapter
- ▶V◀ 28. Outer case
- ▶V◀ 29. Spacer
- ▶V◀ 30. Outer race
- ▶V◀ 31. Spacer
- ▶V◀ 32. Outer race
- ▶V◀ 33. Spacer
- ▶V◀ 34. Center differential
- ◀D▶ 35. Outer race
- ▶K◀ 36. Reverse idler gear shaft bolt
- 37. Gasket



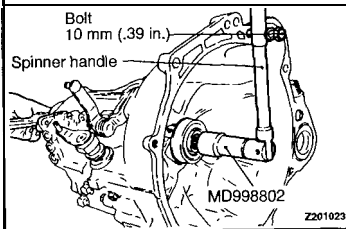
### DISASSEMBLY SERVICE POINTS

#### ◀A▶ LOCK NUTS FOR INPUT SHAFT / INTERMEDIATE GEAR REMOVAL

(1) Unstake lock nuts of the input shaft and intermediate gear.



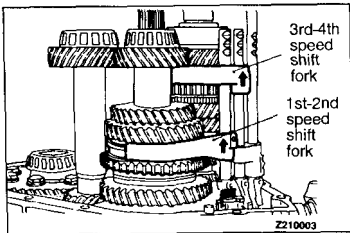
(2) Shift the transaxle in reverse using the control lever and select lever.



(3) Install the special tool onto the input shaft.

(4) Screw a bolt [10 mm (.39 in.)] into the bolt hole on the periphery of clutch housing and attach a spinner handle to the special tool.

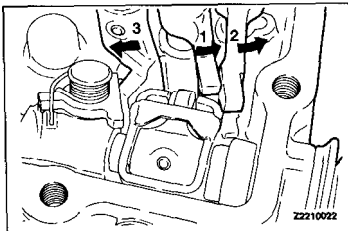
(5) Remove the lock nut, while using the bolt as a spinner handle stopper.



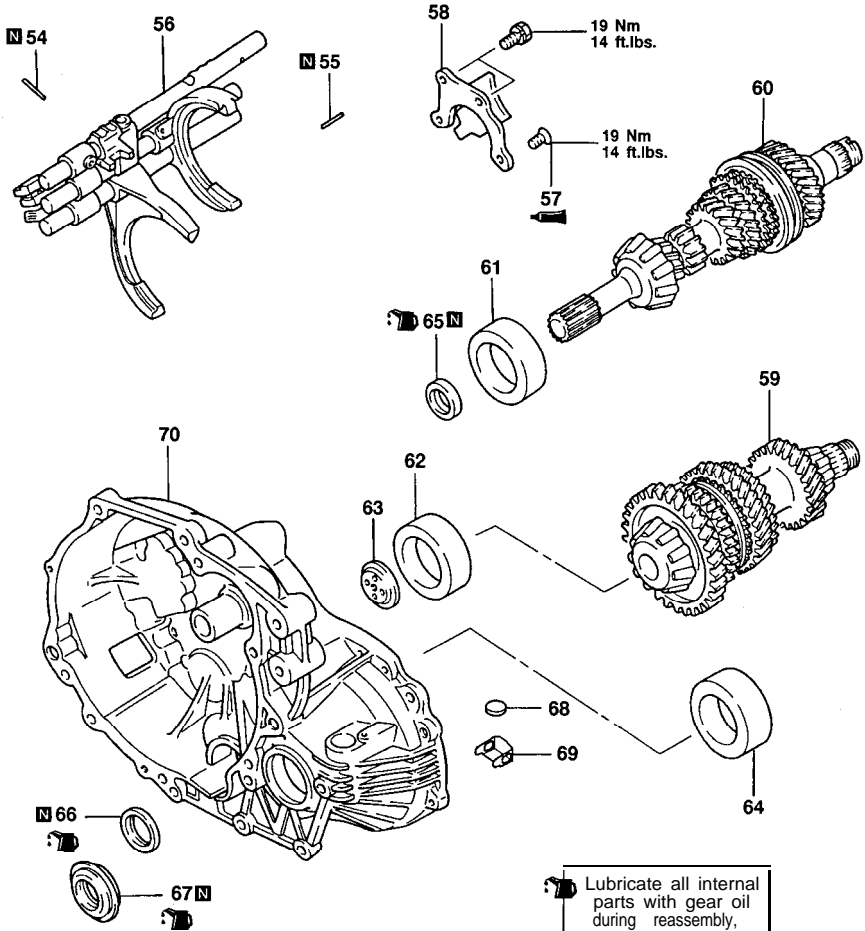
#### ◀B▶ SHIFT RAIL ASSEMBLY REMOVAL

(1) Shift the 1st-2nd speed shift fork to the 2nd speed.

(2) Shift the 3rd-4th speed shift fork to the 4th speed.



(3) Remove the shift rail assembly as shown in the illustration so as not to hit the interlock plate and control finger.

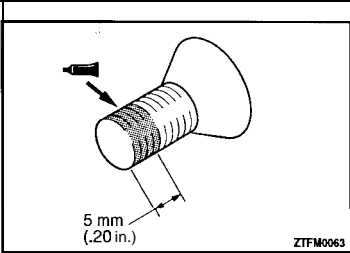


ZTFM0066

Disassembly steps

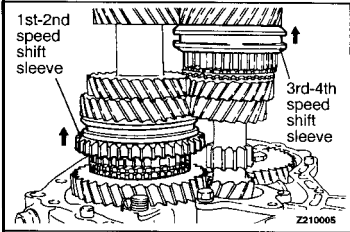
- ◀B▶ F 54. Spring pin
- ◀B▶ F 55. Spring pin
- ◀B▶ D 56. Shift rail assembly
- ◀B▶ D 57. Bolt
- ◀C▶ 58. Bearing retainer
- ◀C▶ C 59. Intermediate gear assembly
- ◀D▶ C 60. Input shaft assembly
- ◀D▶ D 61. Outer race
- ◀D▶ D 62. Outer race

- ◀D▶ 63. Oil guide
- ◀B▶ 64. Outer race
- ◀S▶ 65. Oil seal
- ◀T▶ 66. Oil seal
- ◀T▶ 67. Oil seal
- 68. Magnet
- 69. Magnet holder
- 70. Clutch housing assembly



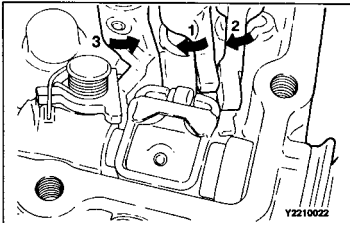
**►D◄ SEALANT APPLICATION TO BEARING RETAINER MOUNTING BOLT**

Specified sealant:  
**3M STUD Locking No.4170** or equivalent

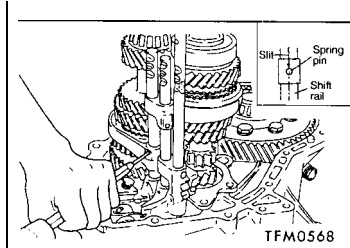


**►E◄ SHIFT RAIL ASSEMBLY INSTALLATION**

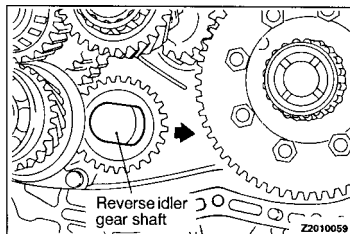
- (1) Set the 1st-2nd speed shift sleeve at 2nd speed.
- (2) Set the 3rd-4th speed shift sleeve at 4th speed.
- (3) Install the shift forks to respective sleeves.



- (4) Insert the shift rail into the shift fork hole, while turning so as to prevent the shift lug from interfering with the stopper plate.
- (5) Turn the shift rail to engage shift lug.

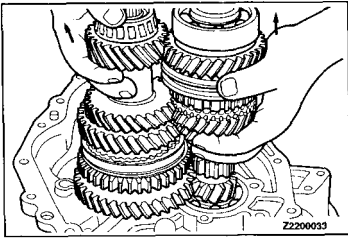


**►F◄ SPRING PINS FOR 1ST-2ND SPEED SHIFT FORK / 3RD-4TH SPEED SHIFT FORK INSTALLATION**



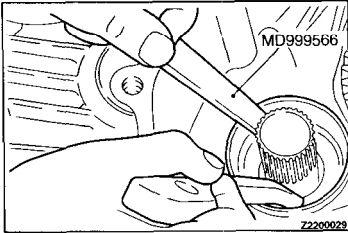
**►G◄ REVERSE IDLER GEAR SHAFT INSTALLATION**

- (1) Install in the direction as illustrated.

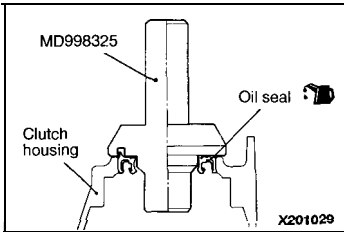


◀C▶ INTERMEDIATE GEAR ASSEMBLY / INPUT SHAFT ASSEMBLY REMOVAL

- (1) Lift up the input shaft assembly and remove the intermediate gear assembly.

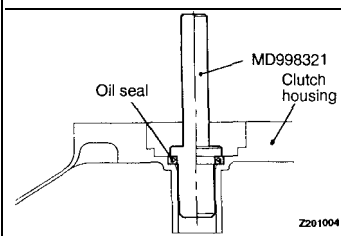


◀D▶ BEARING OUTER RACE REMOVAL

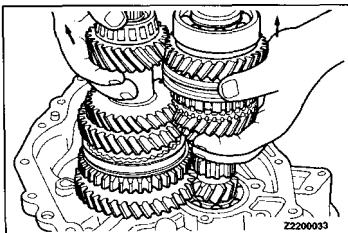


REASSEMBLY SERVICE POINTS

▶A▶ OIL SEAL FOR DRIVE SHAFT INSTALLATION

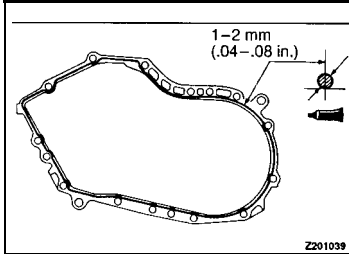


▶B▶ OIL SEAL FOR INPUT SHAFT FRONT INSTALLATION



▶C▶ INTERMEDIATE GEAR ASSEMBLY / INPUT SHAFT ASSEMBLY INSTALLATION

- (1) Lifting up the input shaft assembly, install it simultaneously with the intermediate gear assembly.

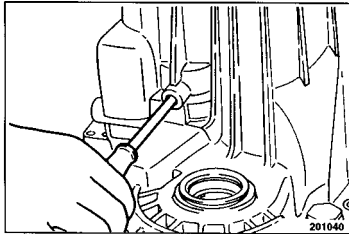


#### ►◄ J ► SEALANT APPLICATION TO TRANSAXLE CASE

- (1) Squeeze out sealant from the tube uniformly without excess or discontinuity.

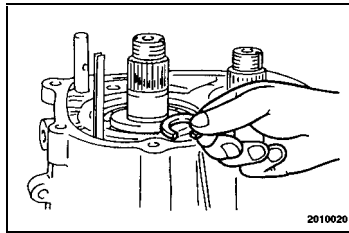
Specified sealant:

Mitsubishi genuine sealant part No. MD997740 or equivalent



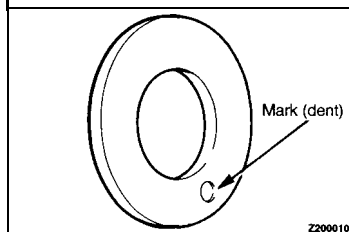
#### ►◄ K ► REVERSE IDLER GEAR SHAFT BOLT INSTALLATION

- (1) Center the shaft with a Phillips screwdriver [shaft diameter 8 mm (.31 in.) or the like.
- (2) Tighten the reverse idler gear shaft bolt to specified torque.



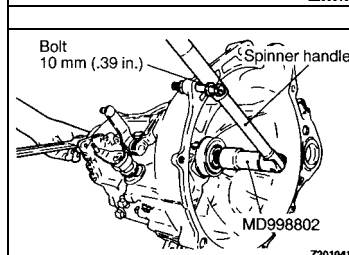
#### ►◄ L ► SNAP RING INSTALLATION

- (1) Select the thickest snap ring that can be fitted into the snap ring groove.



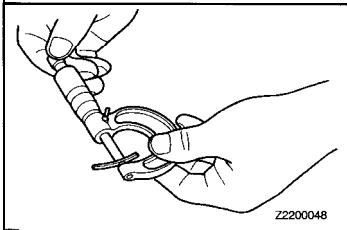
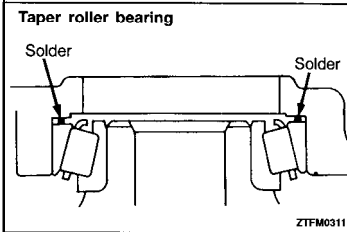
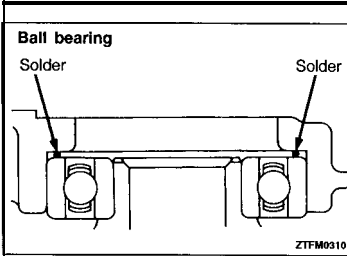
#### ►◄ M ► DISHED WASHER INSTALLATION

- (1) Install the dished washer with the face identified by mark (dent) toward lock nut.



#### ►◄ N ► LOCK NUTS FOR INPUT SHAFT / INTERMEDIATE GEAR INSTALLATION

- (1) Install the special tool onto the input shaft.
- (2) Screw a bolt [10 mm (.39 in.)] into the hole on the periphery of clutch housing and attach a spinner handle to the special tool.



►H◀ SPACERS SELECTION

- (1) Place solder with a length of approximately 10 mm (.39 in.) and a diameter of approximately 1.6 mm (.063 in.) in the spacer mounting position.
- (2) Tighten the case mounting bolt at the specified torque.
- (3) Remove the case and then take out the solder. If the solder is not broken, use solder with a larger diameter to carry out the operations in (1) and (2).

- (4) Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard end play and preload.

Standard value:

Input shaft

End play

0–0.05 mm (0–.0020 in.) <F5M33>

Intermediate gear

End play

0.05–0.17 mm (.0020–.0067 in.) <F5M21>

Preload

0.05–0.10 mm (.0020–.0040 in.) <F5M22>

Output shaft

Preload

0.05–0.10 mm (.0020–.0040 in.) <All models>

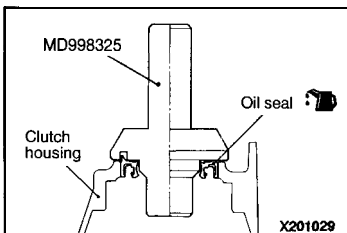
Differential case

End play

0.05–0.17 mm (.0020–.0067 in.) <F5M21>

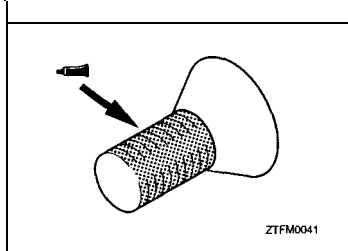
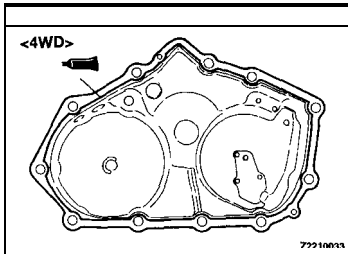
Preload

0.05–0.10 mm (.0020–.0040 in.) <F5M22>



►I◀ OIL SEAL FOR DRIVE SHAFT INSTALLATION

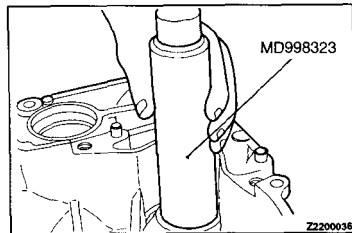




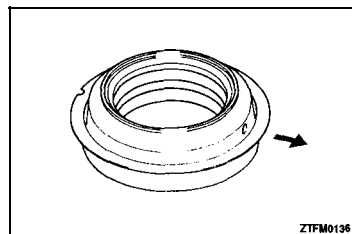
►R◄ SEALANT APPLICATION TO MACHINE SCREW

Specified sealant:

3M STUD Locking No.4170 or equivalent



►S◄ OIL SEAL INSTALLATION

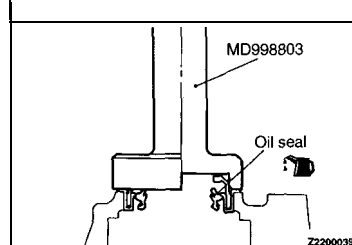


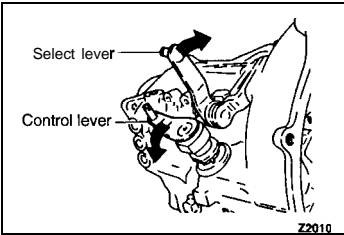
►T◄ OIL SEAL INSTALLATION

- (1) Install the oil seal flange part so that the 3 mm (.12 in.) hole faces the bottom of the transaxle.

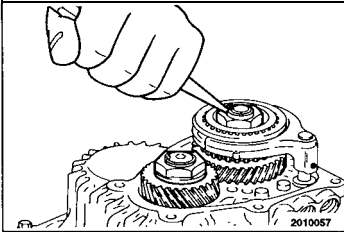
Caution

- Apply transmission oil to the oil seal lip before installing.

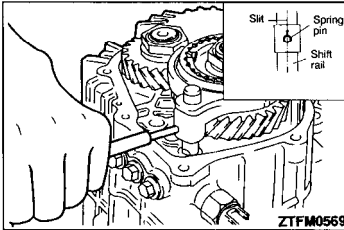




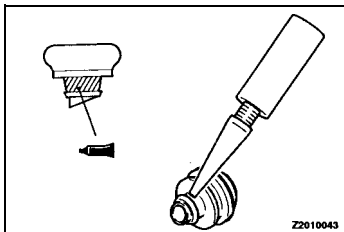
- (3) Shift the transaxle in reverse using control lever and select lever.
- (4) Tighten the lock nut to specified torque, while using the bolt attached in the above step as a spinner handle stop per.



- (5) Stake the lock nut.

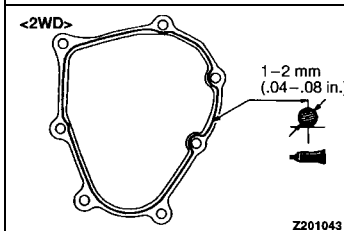


►◀ **SPRING PIN FOR OD-R SHIFT FORK INSTALLATION**



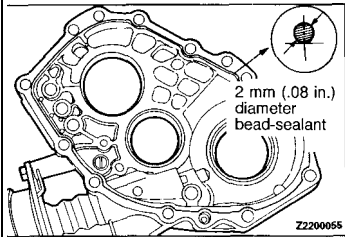
►◀ **SEALANT APPLICATION TO AIR BREATHER**

Specified sealant:  
**3M SUPER WEATHERSTRIP No.8001 or equivalent**



►◀ **SEALANT APPLICATION TO REAR COVER**

Specified sealant:  
**Mitsubishi genuine sealant Part No.MD997740 or equivalent**



### ►W◄ TRANSAXLE CASE ADAPTER ASSEMBLY INSTALLATION

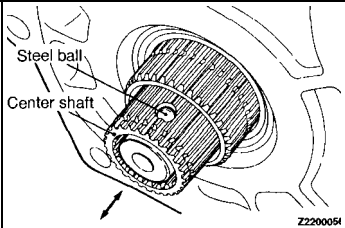
- (1) Apply specified sealant (liquid gasket) to the transaxle case side of the transaxle case adapter assembly.

#### Specified sealant:

Mitsubishi genuine sealant Part No.MD997740 or equivalent

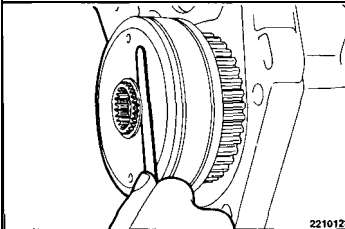
#### Caution

- Squeeze out sealant from the tube uniformly without excess or discontinuity.



### ►X◄ STEEL BALLS INSTALLATION

- (1) Move the center shaft so that the steel balls are securely seated in the grooves.

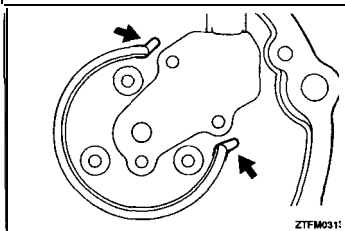


### ►Y◄ SNAP RING INSTALLATION

- (1) Choose a snap ring that gives the standard end play of the viscous coupling and install it.

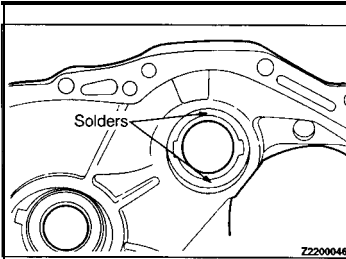
#### Standard value:

Viscous coupling: 0.10–0.26 mm (.0039–.0102 in.)



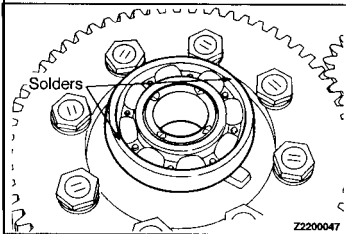
### ►Z◄ WAVE SPRING INSTALLATION

- (1) Install the wave spring so that the clasps come to the indicated position in the illustration.



►U◄ SPACERS INSTALLATION

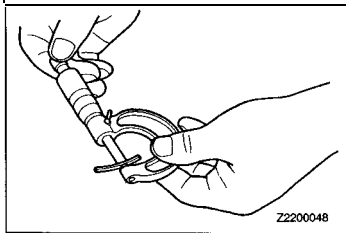
(1) Place two pieces of solder measuring about 10 mm (.39 in.) in length and 3 mm (.12 in.) in diameter at illustrated locations on the transaxle and install each outer race.



(2) Place two pieces of solder measuring about 10 mm (.39 in.) in length and 3 mm (.12 in.) in diameter on the bearing outer race as shown in illustration.

(3) Install the transaxle case and tighten the bolts to specified torque.

(4) Remove the transaxle case and remove the solder.



(5) Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard end play.

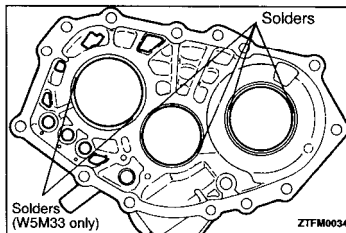
**Standard value:**

**Front output shaft bearing preload:**

**0.08–0.13 mm (.0031–.0051 in.)**

**Front differential case end play:**

**0.05–0.17 mm (.0020–.0067 in.)**



►V◄ SPACERS INSTALLATION

(1) Place two pieces of solder measuring about 10 mm (.39 in.) in length and 3 mm (.12 in.) in diameter at illustrated locations on the transaxle case adapter assembly and install each outer race.

(2) Install the transaxle case adapter assembly and rear cover and tighten the bolts to specified torque.

(3) Remove the transaxle case adapter assembly and rear cover.

(4) Remove each outer race and remove the solder. Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard end play and preload.

**Standard value:**

**Intermediate gear preload:**

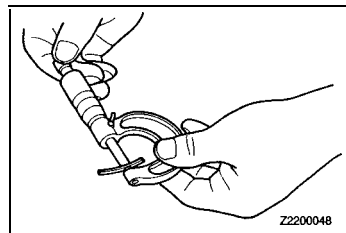
**0.08–0.13 mm (.0031–.0051 in.)**

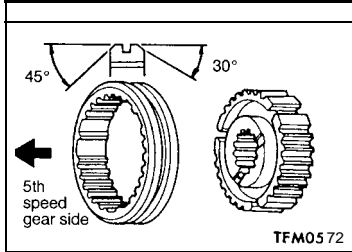
**Center differential case preload:**

**0.08–0.13 mm (.0031–.0051 in.)**

**Input shaft end play:**

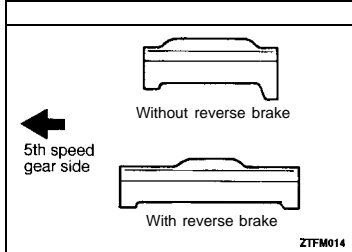
**0–0.05 mm (0–.0020 in.) <W5M33>**



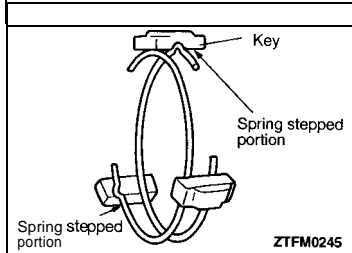


**REASSEMBLY SERVICE POINTS**

▶A◀ **SYNCHRONIZER HUB / SYNCHRONIZER SLEEVE INSTALLATION**

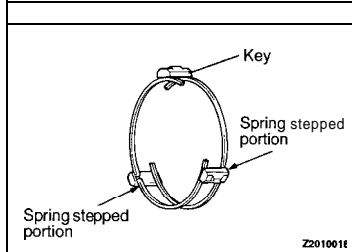


▶B◀ **SYNCHRONIZER KEY INSTALLATION**




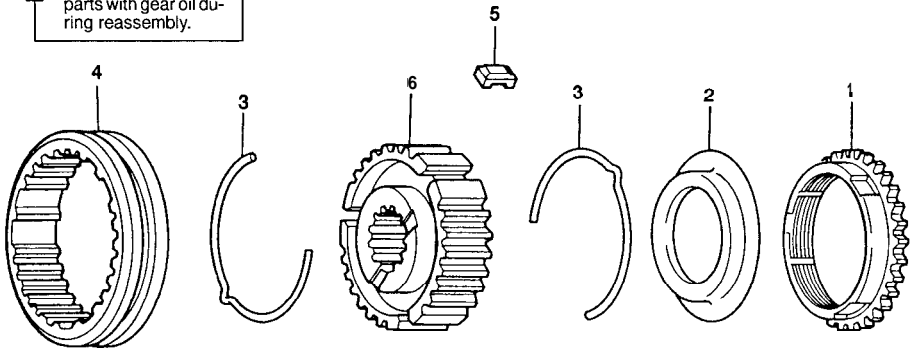
▶C◀ **SYNCHRONIZER SPRING INSTALLATION**

(1) When installing the synchronizer springs, be sure to position each spring with respect to the keys as illustrated.



**5TH SPEED SYNCHRONIZER <5-speed Model Only>  
DISASSEMBLY AND REASSEMBLY**

 Lubricate all internal parts with gear oil during reassembly.

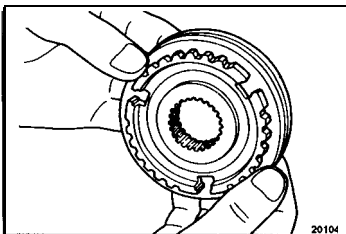


ZTFM0055

**Disassembly steps**

1. Reverse brake ring (with reverse brake)
2. Stop plate (without reverse brake)
- ▶◀ 3. Synchronizer spring

- ▶◀ 4. Synchronizer sleeve
- ▶◀ 5. Synchronizer key
- ▶◀ 6. Synchronizer hub



**INSPECTION**

**SYNCHRONIZER SLEEVE AND HUB**

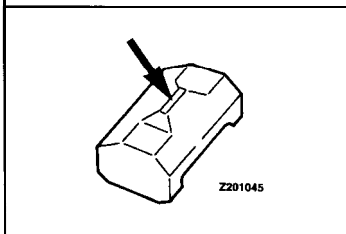
- (1) Combine the synchronizer sleeve and hub and check that they slide smoothly.
- (2) Check that the sleeve is free from damage at its inside front and rear ends.
- (3) Check for wear of the hub front end (surface in contact with the 5th speed gear).

**Caution**

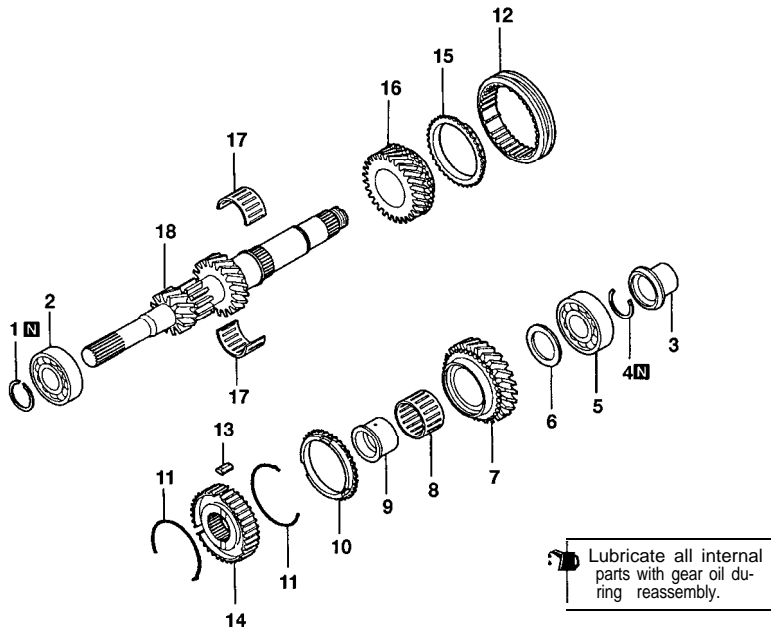
- When replacing, replace the synchronizer hub and sleeve as a set.

**SYNCHRONIZER KEY AND SPRING**

- (1) Check for wear of the synchronizer key center protrusion.
- (2) Check the spring for weakness, deformation and breakage.



## DISASSEMBLY AND REASSEMBLY – F5M22



ZTFM0260

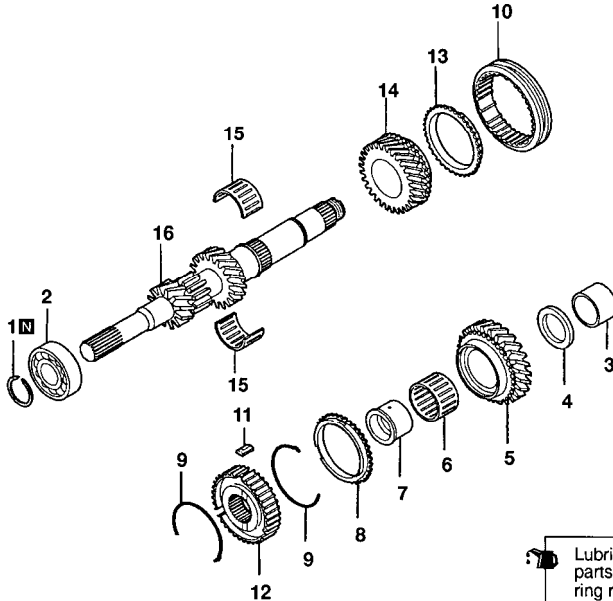
## Disassembly steps

- ▶K▶ 1. Snap ring
- ▶J▶ 2. Ball bearing
- ▶B▶▶I▶ 3. Bearing sleeve
- ▶H▶▶ 4. Snap ring
- ▶D▶▶G▶▶ 5. Ball bearing
- ▶E▶▶ 6. Spacer
- ▶ 7. 4th speed gear
- ▶ 8. Needle bearing
- ▶C▶▶ 9. Bearing sleeve

- ▶B▶▶ 10. Synchronizer ring
- ▶A▶▶ 11. Synchronizer spring
- ▶B▶▶▶ 12. 3rd-4th speed synchronizer sleeve
- ▶A▶▶▶ 13. Synchronizer key
- ▶▶▶▶ 14. 3rd-4th speed synchronizer hub
- ▶▶▶▶▶ 15. Synchronizer ring
- ▶▶▶▶▶▶ 16. 3rd speed gear
- ▶▶▶▶▶▶▶ 17. Needle bearing
- ▶▶▶▶▶▶▶▶ 18. Input shaft

# INPUT SHAFT

## DISASSEMBLY AND REASSEMBLY – F4M21, F5M21



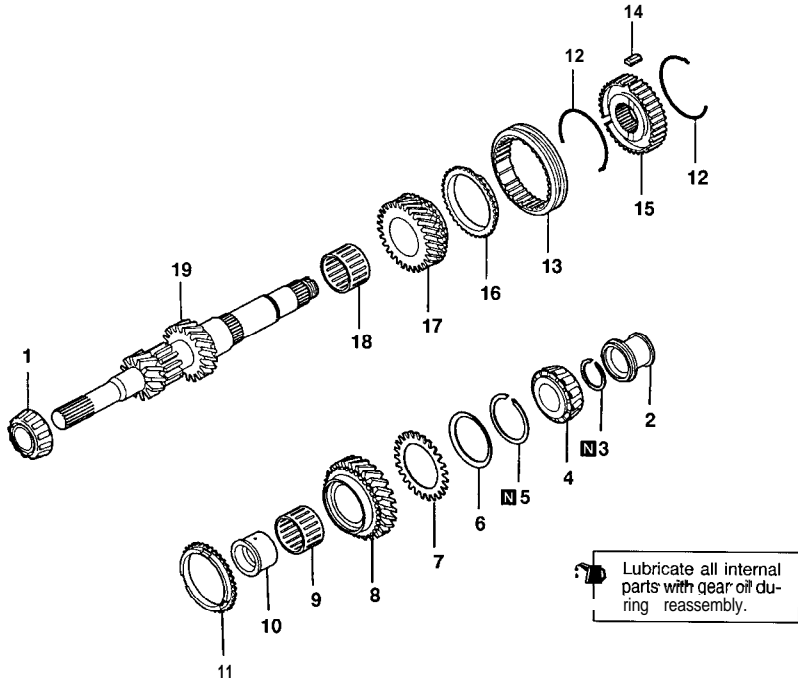
ZTFM0261

### Disassembly steps

- ◀A▶ ▶K▶ 1. Snap ring
- ▶J▶ 2. Ball bearing
- ▶F▶ 3. Inner ring
- ▶E▶ 4. Spacer
- ▶C▶ 5. 4th speed gear
- ▶C▶ 6. Needle bearing
- ▶C▶ 7. Bearing sleeve
- ▶C▶ 8. Synchronizer ring
- ▶B▶ 9. Synchronizer spring
- ▶A▶ 10. 3rd-4th speed synchronizer sleeve
- ▶B▶ 11. Synchronizer key
- ▶A▶ 12. 3rd-4th speed synchronizer hub
- ▶C▶ 13. Synchronizer ring
- ▶C▶ 14. 3rd speed gear
- ▶C▶ 15. Needle bearing
- ▶C▶ 16. Input shaft



DISASSEMBLY AND REASSEMBLY – F5M33



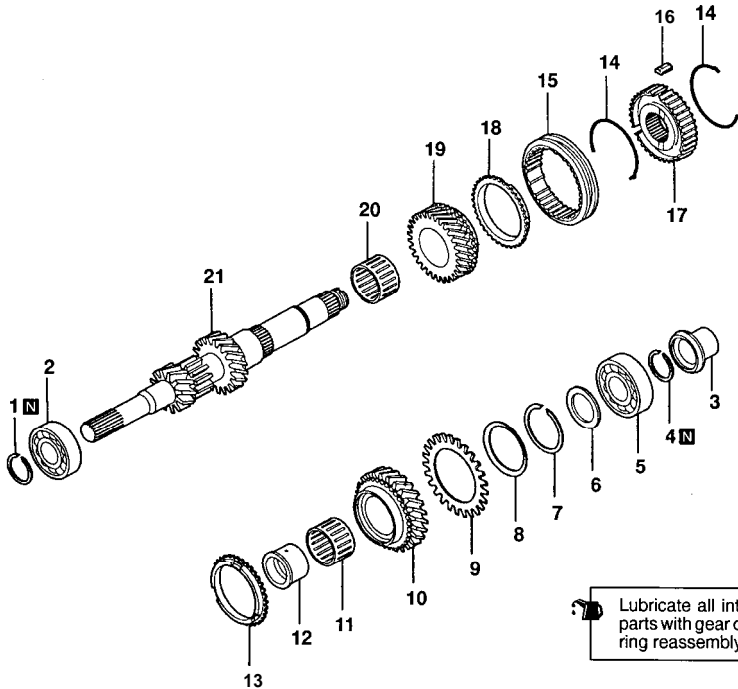
ZTFM0262


Disassembly steps

- ◀A▶ J 1. Taper roller bearing
- ◀B▶ I 2. Bearing sleeve
- ◀D▶ H 3. Snap ring
- ◀D▶ G 4. Taper roller bearing
- ◀D▶ F 5. Snap ring
- ◀D▶ E 6. Cone spring
- ◀D▶ D 7. Sub gear
- ◀D▶ C 8. 4th speed gear
- ◀C▶ B 9. Needle bearing
- ◀C▶ A 10. Bearing sleeve

- ◀B▶ 11. Synchronizer ring
- ◀B▶ 12. Synchronizer spring
- ◀A▶ 13. 3rd-4th synchronizer sleeve
- ◀B▶ 14. Synchronizer key
- ◀A▶ 15. 3rd-4th synchronizer hub
- ◀D▶ 16. Synchronizer ring
- ◀D▶ 17. 3rd speed gear
- ◀D▶ 18. Needle bearing
- ◀D▶ 19. Input shaft


















DISASSEMBLY AND REASSEMBLY – F5M31














 Lubricate all internal parts with gear oil during reassembly.

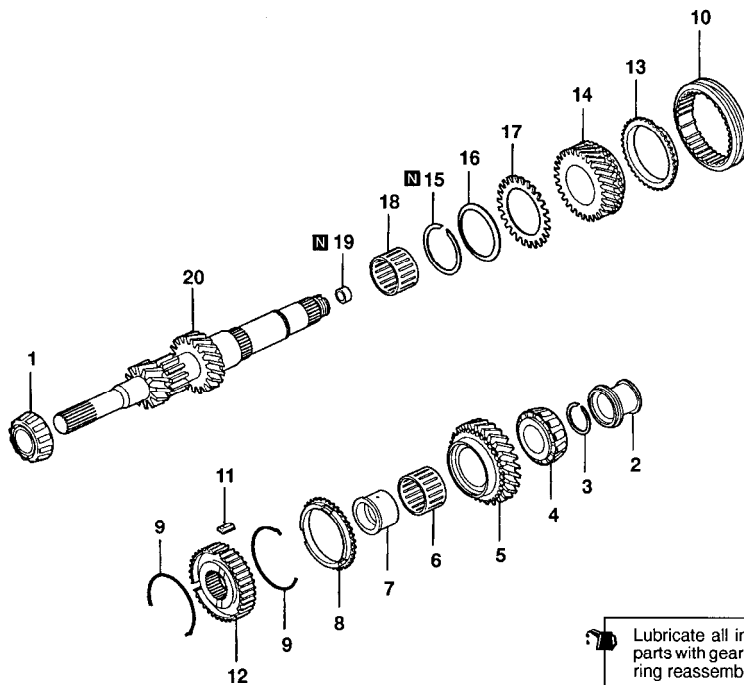
ZTFM0263

Disassembly steps

-   1. Snap ring
-   2. Ball bearing
-   3. Bearing sleeve
-   4. Snap ring
-   5. Cone spring
-   6. Spacer
-  7. Snap ring
-  8. Cone spring
-  9. 3rd-4th speed gear
-  10. Needle bearing
-  11. Needle bearing

-  12. Bearing sleeve
-  13. Synchronizer ring
-  14. Synchronizer spring
-   16. 3rd-4th speed synchronizer sleeve
-  Synchronizer key
-  17. 3rd-4th speed synchronizer hub
-  18. Synchronizer ring
-  19. 3rd speed gear
-  20. Needle bearing
-  Input shaft

DISASSEMBLY AND REASSEMBLY – W5M33



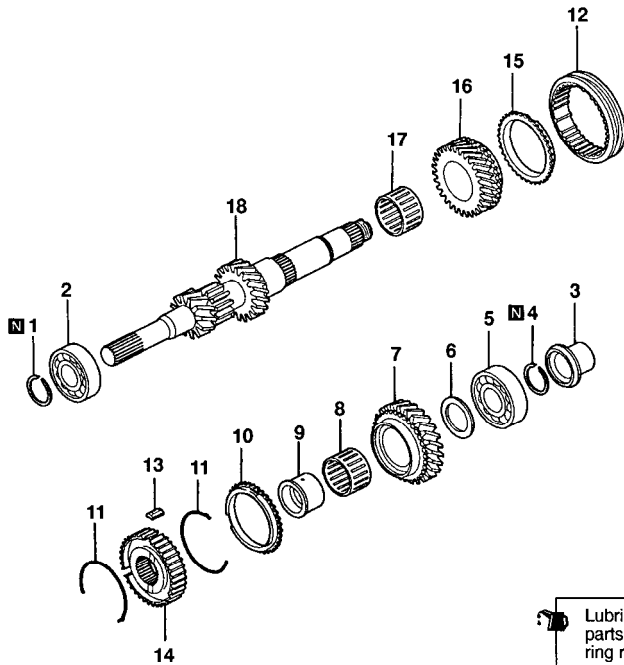
ZTFM0256

Disassembly steps

- ◀A▶▶J▶ 1. Taper roller bearing
- ◀B▶▶I▶ 2. Searing sleeve
- ◀D▶▶H▶▶G▶ 3. Snap ring
- ◀C▶▶ 4. Taper roller bearing
- ▶ 5. 4th speed gear
- ▶ 6. Needle bearing
- ▶▶C▶▶ 7. Bearing sleeve
- ▶▶B▶▶ 8. Synchronizer ring
- ▶▶A▶▶ 9. Synchronizer spring
- ▶▶A▶▶ 10. 3rd-4th speed synchronizer sleeve

- ▶▶B▶▶ 11. Synchronizer key
- ▶▶A▶▶ 12. 3rd-4th speed synchronizer hub
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 13. Synchronizer ring
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 14. 3rd speed gear
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 15. Snap ring
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 16. Cone spring
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 17. Sub gear
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 18. Needle bearing
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 19. Oil seal
- ▶▶D▶▶▶D▶▶▶D▶▶▶ 20. Input shaft

DISASSEMBLY AND REASSEMBLY – W5M31

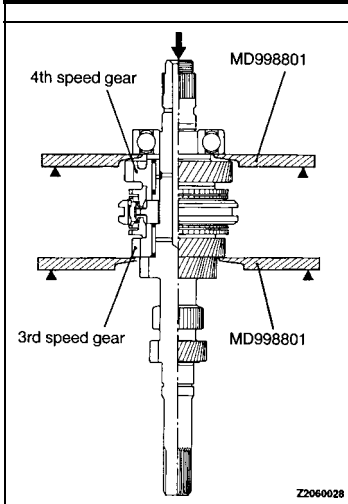


ZTFM0257

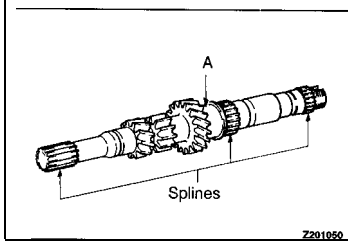
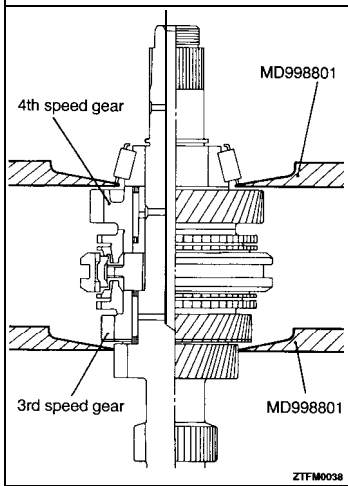
Disassembly steps

- ▶K 1. Snap ring
- ▶J 2. Ball bearing
- ▶I 3. Bearing sleeve
- ▶H 4. Snap ring
- ▶G 5. Ball bearing
- ▶E 6. Spacer
- ▶D 7. 4th speed gear
- 8. Needle bearing
- ▶C 9. Bearing sleeve

- 10. Synchronizer ring
- ▶B 11. Synchronizer spring
- ▶A 12. 3rd-4th speed synchronizer sleeve
- ▶B 13. Synchronizer key
- ▶A 14. 3rd-4th speed synchronizer hub
- 15. Synchronizer ring
- 16. 3rd speed gear
- 17. Needle bearing
- 18. Input shaft



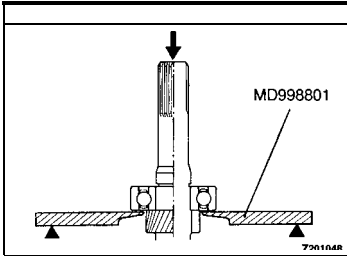
◀▷ REAR BALL BEARING / TAPER ROLLER BEARING / 3RD SPEED GEAR REMOVAL



**INSPECTION**

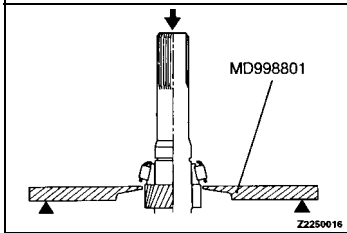
**INPUT SHAFT**

- (1) Check the outer surface of the input shaft where the needle bearing is mounted for damage, abnormal wear and seizure [portion A].
- (2) Check the splines for damage and wear.

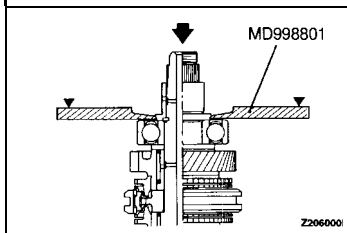


**DISASSEMBLY SERVICE POINTS**

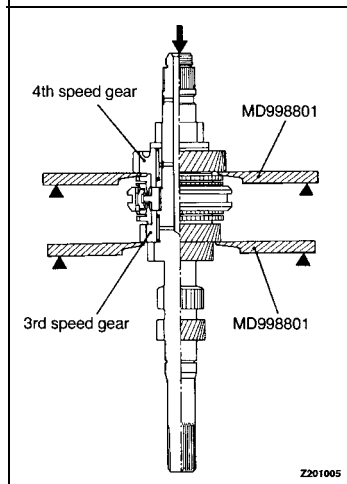
**◀A▶ FRONT BALL BEARING / FRONT TAPER ROLLER BEARING REMOVAL**

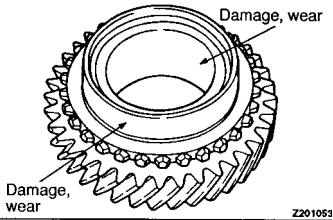


**◀B▶ BEARING SLEEVE FOR 5TH SPEED GEAR REMOVAL**



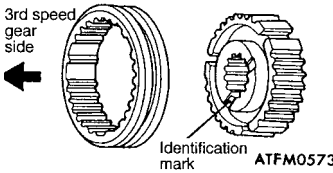
**◀C▶ 4TH SPEED GEAR | 3RD SPEED GEAR REMOVAL**





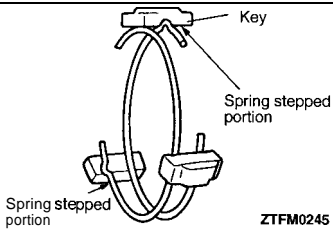
**SPEED GEARS**

- (1) Check the synchronizer cone for rough surface, damage and wear.
- (2) Check the gear bore and front and rear ends for damage and wear.



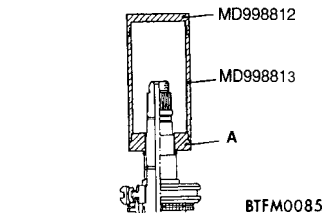
**REASSEMBLY SERVICE POINTS**

**▶A◀ 3RD-4TH SPEED SYNCHRONIZER HUB / 3RD-4TH SPEED SYNCHRONIZER SLEEVE INSTALLATION**



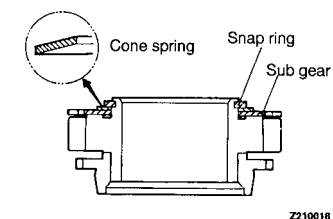
**▶B◀ SYNCHRONIZER SPRING I SYNCHRONIZER KEY INSTALLATION**

- (1) When installing the synchronizer springs, be sure to position each spring with respect to the keys as illustrated.

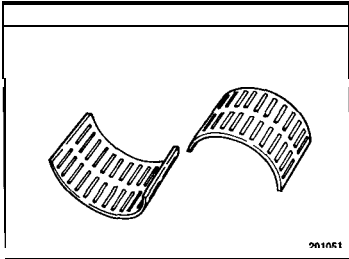


**▶C◀ BEARING SLEEVE FOR 4TH SPEED GEAR INSTALLATION**

|   |              |                            |
|---|--------------|----------------------------|
|   | F5M21, F5M22 | F5M31, F5M33, W5M31, W5M33 |
| A | GENERAL TOOL | MD998818                   |

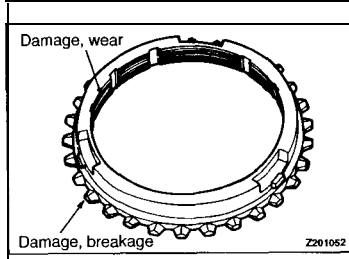


**▶D◀ SUB GEAR I CONE SPRING / SNAP RING INSTALLATION**



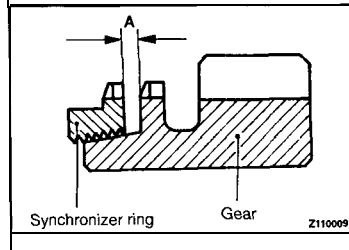
**NEEDLE BEARING**

- (1) Combine the needle bearing with the shaft or bearing sleeve and gear and check that it rotates smoothly without abnormal noise or play.
- (2) Check the needle bearing cage for deformation.



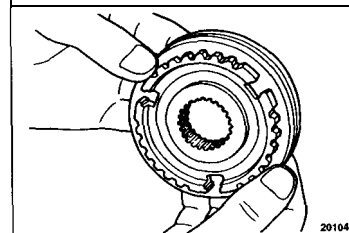
**SYNCHRONIZER RING**

- (1) Check the clutch gear teeth for damage and breakage.
- (2) Check the internal surface for damage, wear and broken threads.



- (3) Force the synchronizer ring toward the clutch gear and check clearance "A". Replace if it is out of specification.

**Limit: 0.5 mm (.020 in.)**

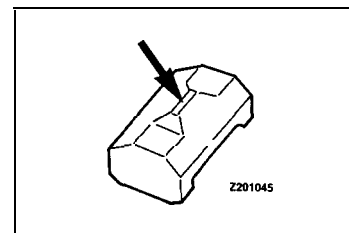


**SYNCHRONIZER SLEEVE AND HUB**

- (1) Combine the synchronizer sleeve and hub and check that they slide smoothly.
- (2) Check that the sleeve is free from damage at its inside front and rear ends.
- (3) Check for wear of the hub end surfaces (in contact with each speed gear).

**Caution**

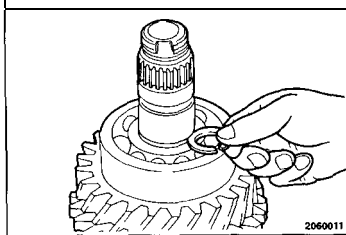
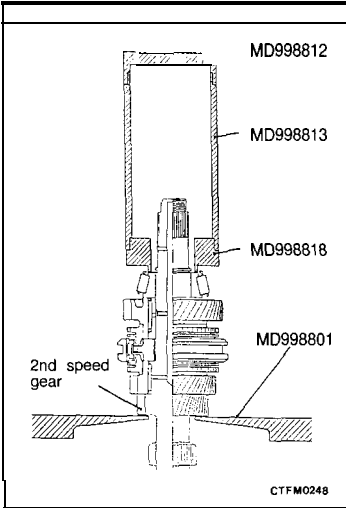
- **When replacing, replace the synchronizer hub and sleeve as a set.**



**SYNCHRONIZER KEY AND SPRING**

- (1) Check for wear of the synchronizer key center protrusion.
- (2) Check the spring for weakness, deformation and breakage.



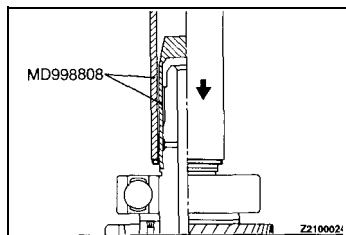


▶◀ SNAP RING INSTALLATION

- (1) Select the thickest snap ring that can be fitted in the snap ring groove.

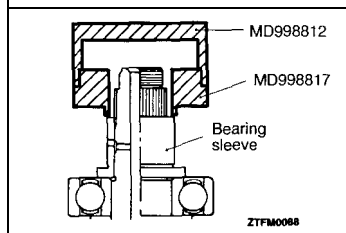
Standard value:

Input shaft rear bearing end play  
0–0.09 mm (0–.0035 in.)



Caution

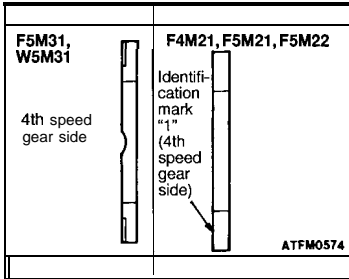
- Do not reuse the snap ring.
- The snap ring may be opened too wide by pliers, resulting in improper installation of the sleeve.



▶◀ BEARING SLEEVE FOR 5TH SPEED GEAR INSTALLATION

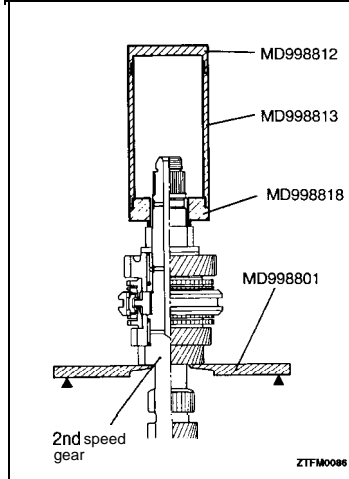
Caution

- When press-fitting the sleeve to the input shaft, make sure that the sleeve flange is closely fitted to the bearing.

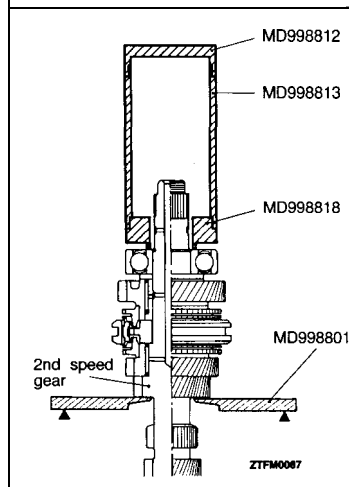


►E◄ SPACER INSTALLATION

- (1) Install with the side having the identification mark "1" on the 4th speed gear side. Spacers without identification mark may be installed in either direction.



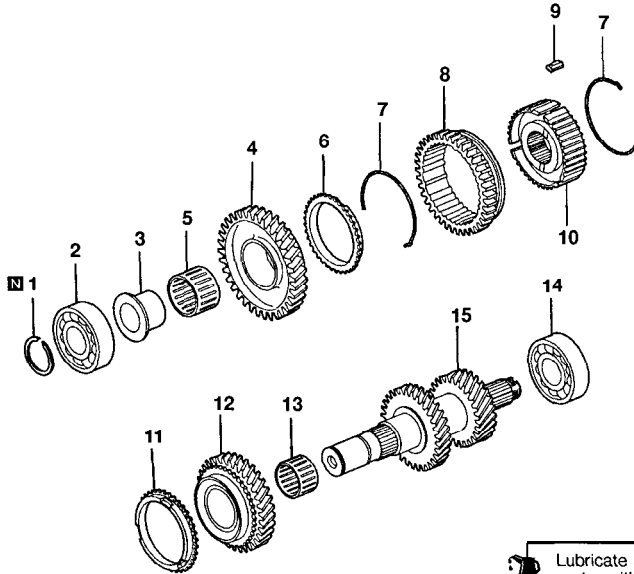
►F◄ INNER RING FOR REAR BEARING INSTALLATION




►G◄ REAR BALL BEARING INSTALLATION

**INTERMEDIATE GEAR**

**DISASSEMBLY AND REASSEMBLY – F4M21, F5M21**



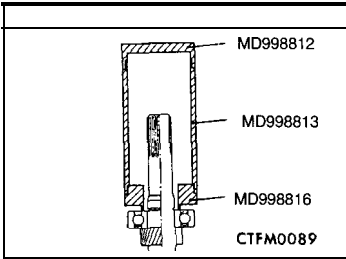
 Lubricate all internal parts with gear oil during reassembly.

ZTFM0258

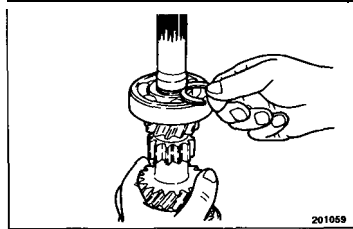
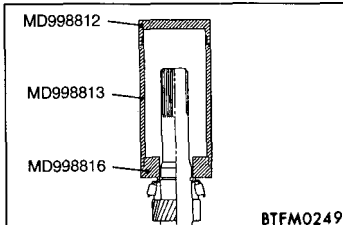
**Disassembly steps**

- ◀A▶ I 1. Snap ring
- ◀A▶ H 2. Ball bearing
- ◀A▶ F 3. Bearing sleeve
- ◀A▶ 4. 1st speed gear
- 5. Needle bearing
- ◀C▶ 6. Synchronizer ring
- ◀E▶ 7. Synchronizer spring
- ◀D▶ 8. 1st-2nd speed synchronizer sleeve

- ◀B▶ D 9. Synchronizer key
- ◀B▶ D 10. 1st-2nd speed synchronizer hub
- ◀C▶ 11. Synchronizer ring
- ◀B▶ 12. 2nd speed gear
- 13. Needle bearing
- ◀C▶ B 14. Ball bearing
- 15. Intermediate gear



▶◀ J ◀ FRONT BALL BEARING / FRONT TAPER ROLLER BEARING INSTALLATION



▶◀ K ◀ SNAP RING INSTALLATION

- (1) Snap rings are available in three different thickness. Select the thickest one that fits in the snap ring groove.

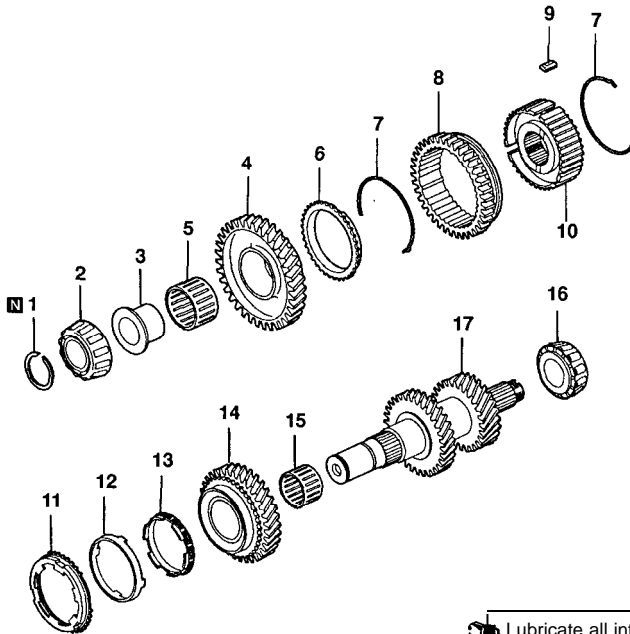
**Standard value:**


Input shaft front bearing end play  
0.01–0.12 mm (.0004–.0047 in.)

**Caution**

- Do not damage the input shaft oil seal contacting portion.

DISASSEMBLY AND REASSEMBLY – F5M33



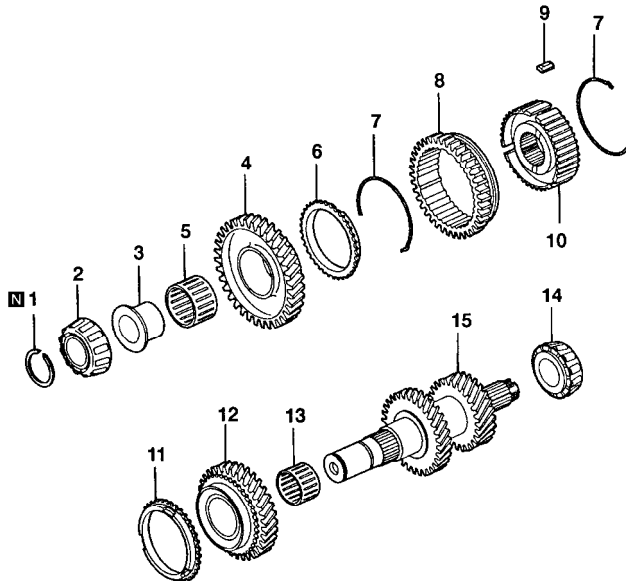
 Lubricate all internal pans with gear oil during reassembly.


ZTFM0255

Disassembly steps

- |     |     |                                      |     |     |                                    |
|-----|-----|--------------------------------------|-----|-----|------------------------------------|
| ◀A▶ | ▶I▶ | 1. Snap ring                         | ▶D▶ | ▶B▶ | 10. 1st-2nd speed synchronizer hub |
| ◀A▶ | ▶G▶ | 2. Taper roller bearing              |     | ▶B▶ | 11. Synchronizer outer ring        |
| ◀A▶ | ▶F▶ | 3. Bearing sleeve                    |     | ▶B▶ | 12. Synchronizer cone              |
|     |     | 4. 1st speed gear                    |     | ▶B▶ | 13. Synchronizer inner ring        |
|     |     | 5. Needle bearing                    |     | ▶B▶ | 14. 2nd speed gear                 |
|     | ▶C▶ | 6. Synchronizer ring                 |     | ▶B▶ | 15. Needle bearing                 |
|     | ▶E▶ | 7. Synchronizer spring               |     | ▶B▶ | 16. Taper roller bearing           |
| ◀B▶ | ▶D▶ | 8. 1st-2nd speed synchronizer sleeve |     | ▶B▶ | 17. Intermediate gear              |
|     | ▶D▶ | 9. Synchronizer key                  |     |     |                                    |

DISASSEMBLY AND REASSEMBLY – F5M22, F5M31, W5M31, W5M33



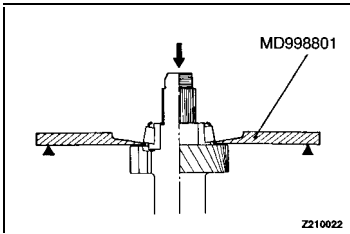
 Lubricate all internal parts with gear oil during reassembly.

ZTFM0254

Disassembly steps

- ◀A▶▶I▶ 1. Snap ring
- ◀A▶▶G▶ 2. Taper roller bearing
- ◀A▶▶F▶ 3. Bearing sleeve
- ▶C▶▶E▶ 4. 1st speed gear
- ▶E▶▶D▶ 5. Needle bearing
- ▶E▶▶D▶ 6. Synchronizer ring
- ▶E▶▶D▶ 7. Synchronizer spring
- ▶D▶▶A▶ 8. 1st-2nd speed synchronizer sleeve

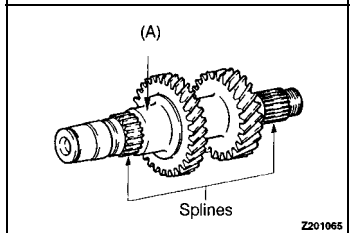
- ▶D▶▶D▶ 9. Synchronizer key
- ▶B▶▶D▶ 10. 1st-2nd speed synchronizer hub
- ▶B▶▶C▶ 11. Synchronizer ring
- ▶D▶▶A▶ 12. 2nd speed gear
- ▶D▶▶A▶ 13. Needle bearing
- ▶D▶▶A▶ 14. Taper roller bearing
- ▶D▶▶A▶ 15. intermediate gear



### ◀D▶ TAPER ROLLER BEARING REMOVAL

#### Caution

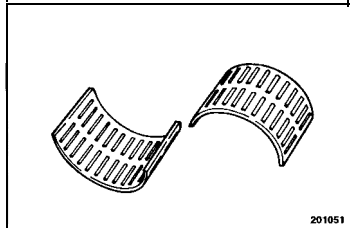
- Do not reuse the bearing removed from the shaft.
- Replace the inner and outer races of the taper roller bearing as a set.



### INSPECTION

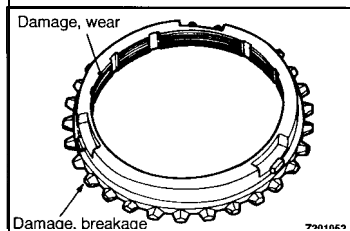
#### INTERMEDIATE GEAR

- (1) Check the outer surface of the intermediate gear where the needle bearing is mounted for damage, abnormal wear and seizure [portion (A)].
- (2) Check the splines for damage and wear.



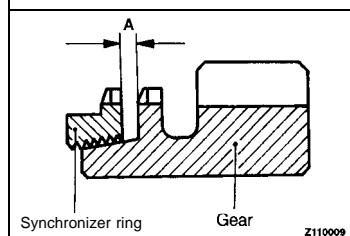
#### NEEDLE BEARING

- (1) Combine the needle bearing with the shaft or bearing sleeve and gear and check that it rotates smoothly without abnormal noise or play.
- (2) Check the needle bearing cage for deformation.



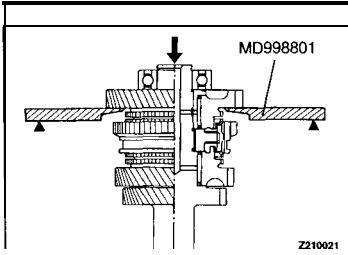
#### SYNCHRONIZER RING

- (1) Check the clutch gear teeth for damage and breakage.
- (2) Check the internal surface for damage, wear and broken threads.



- (3) Force the synchronizer ring toward the clutch gear and check clearance "A". Replace if it is out of specification.

Limit: 0.5 mm (.020 in.)

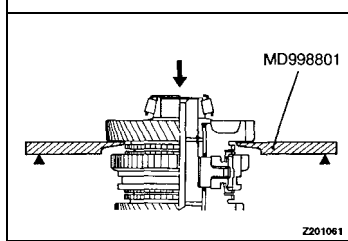


**DISASSEMBLY SERVICE POINTS**

**◀A▶ BALL BEARING / TAPER ROLLER BEARING / 1ST SPEED GEAR REMOVAL**

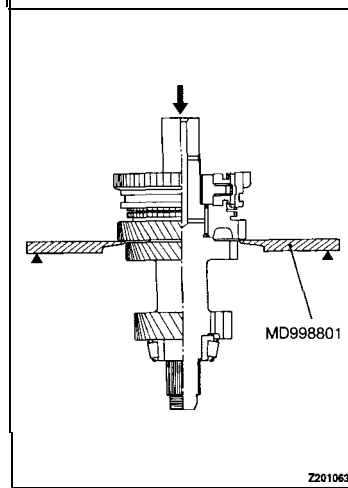
**Caution**

- Do not reuse the bearing removed from the shaft.

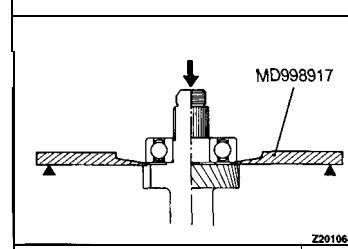


**Caution**

- Do not reuse the bearing removed from the shaft.
- Replace the inner and outer races of the taper roller bearing as a set.



**◀B▶ 1ST-2ND SPEED SYNCHRONIZER HUB / 2ND SPEED GEAR REMOVAL**

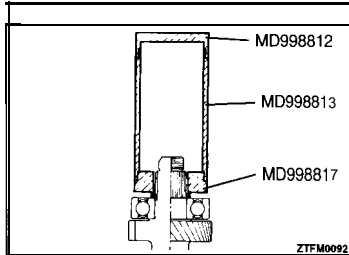


**◀C▶ BALL BEARING REMOVAL**

**Caution**

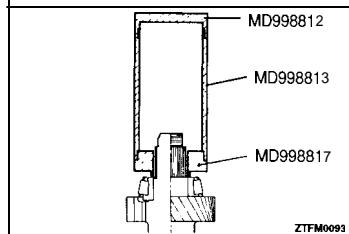
- Do not reuse the bearing removed from the shaft.





**REASSEMBLY SERVICE POINTS**

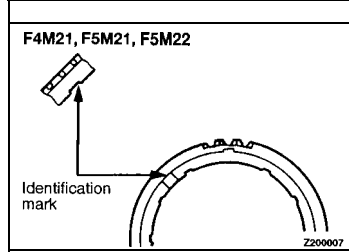
▶◀ **A** BALL BEARING INSTALLATION



▶◀ **B** TAPER ROLLER BEARING INSTALLATION

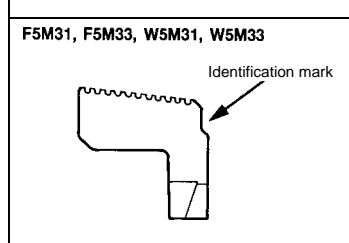
**Caution**

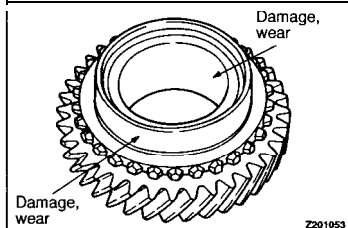
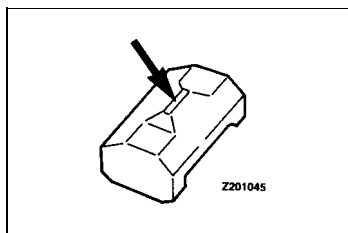
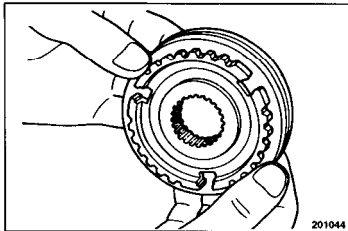
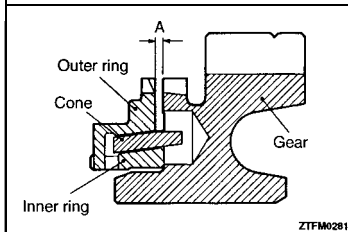
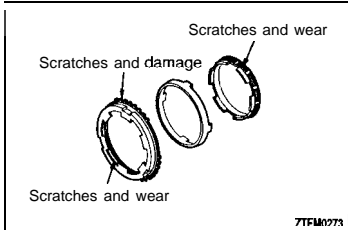
- When installing the bearing, push the inner race only.



▶◀ **C** SYNCHRONIZER RINGS FOR 1ST SPEED GEAR, 2ND SPEED GEAR INSTALLATION

- (1) The 1 st speed gear and 2nd speed gear of synchronizer rings have an identification mark.



**SYNCHRONIZER OUTER RING, INNER RING AND CONE**

- (1) Check that there are no scratches or damage on the clutch gear teeth and cone surface.
- (2) Check that there are no scratches, wear or peeling on the paper lining surface.

- (3) Install the outer ring, inner ring and cone, and press them onto the clutch gear. Check clearance "A", and replace if "A" is below the limit value.

**Limit: 0.5 mm (.020 in.)**

**Caution**

- **Replace the outer ring, inner ring and cone as a set.**

**SYNCHRONIZER SLEEVE AND HUB**

- (1) Combine the synchronizer sleeve and hub and check that they slide smoothly.
- (2) Check that the sleeve is free from damage at its inside front and rear ends.
- (3) Check for wear of the hub end surface (in contact with each speed gear).

**Caution**

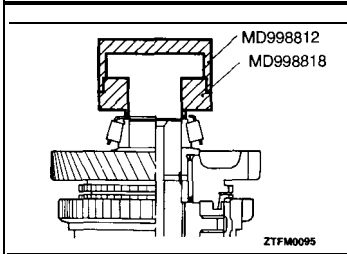
- **When replacing, replace the synchronizer hub and sleeve as a set.**

**SYNCHRONIZER KEY AND SPRING**

- (1) Check for wear of the synchronizer key center protrusion.
- (2) Check the spring for weakness, deformation and breakage.

**SPEED GEARS**

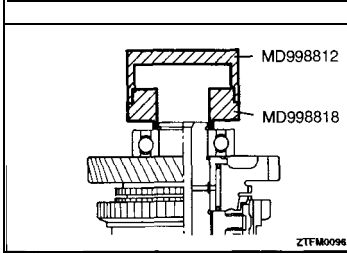
- (1) Check the bevel gear and clutch gear teeth for damage and wear.
- (2) Check the synchronizer cone for rough surface, damage and wear.
- (3) Check the gear bore and front and rear ends for damage and wear.



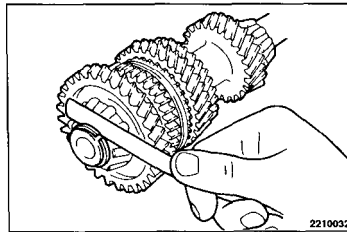
### ►G◄ TAPER ROLLER BEARING INSTALLATION

#### Caution

- When installing the bearing, push the inner race only.



### ►H◄ BALL BEARING INSTALLATION



### ►I◄ SNAP RING INSTALLATION

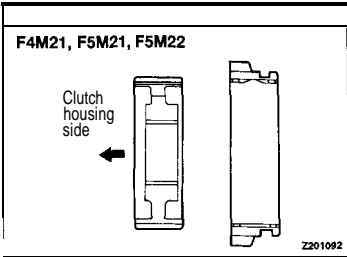
- (1) Select and install the snap ring that gives standard intermediate gear bearing end play.

#### Standard value:

Intermediate gear bearing end play:

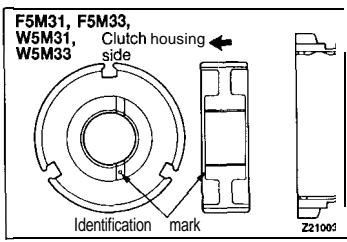
0.01–0.14 m m (.0004–.0055 in.) <F4M21,  
F5M21, F5M22, F5M33, W5M33>

0.01–0.11 m m (.0004–.0044 in.) <F5M31,  
W5M31>

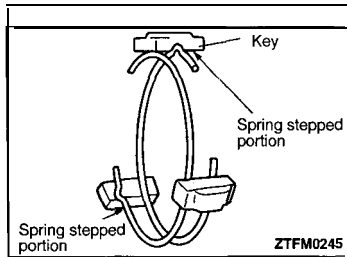
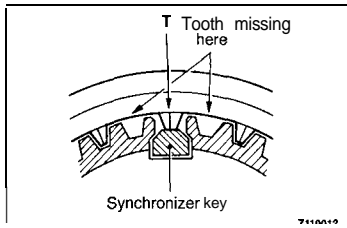


**►D◄ 1ST-2ND SPEED SYNCHRONIZER HUB | SYNCHRONIZER KEY | 1ST-2ND SYNCHRONIZER SLEEVE INSTALLATION**

- (1) Combine the 1st–2nd speed synchronizer hub and sleeve as illustrated.

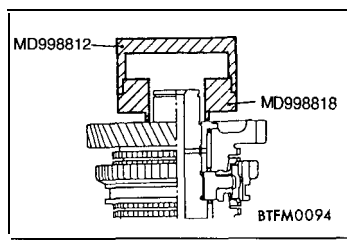


- (2) The synchronizer sleeve has tooth missing at six portions. Assemble the hub to the sleeve in such a way that the center tooth “T” between two missing teeth will touch the synchronizer key.



**►E◄ SYNCHRONIZER SPRING INSTALLATION**

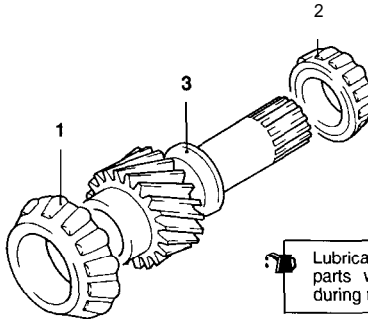
- (1) When installing the synchronizer springs, be sure to position each spring with respect to the keys as illustrated.



**►F◄ BEARING SLEEVE INSTALLATION**

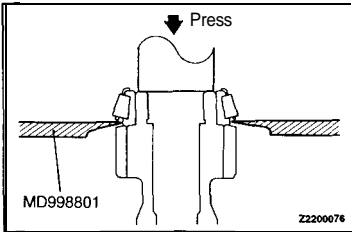
**FRONT OUTPUT SHAFT <AWD>**

**DISASSEMBLY AND REASSEMBLY**



Disassembly steps

- ◀A▶▶B▶ 1. Taper roller bearing
- ◀A▶▶A▶ 2. Taper roller bearing
- 3. Front output shaft



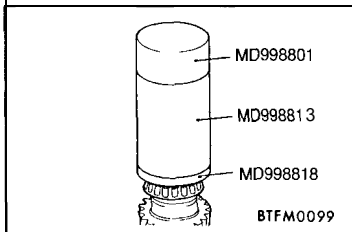
**DISASSEMBLY SERVICE POINTS**

**◀A▶ TAPER ROLLER BEARINGS REMOVAL**

- (1) Remove the taper roller bearings using the special tool.

NOTE

- (1) Do not reuse the bearing removed from the shaft.
- (2) Replace the inner and outer races of the taper roller bearing as a set.



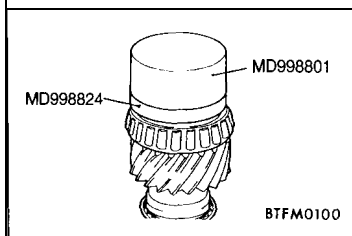
**REASSEMBLY SERVICE POINTS**

**▶A▶ TAPER ROLLER BEARINGS INSTALLATION**

- (1) Install the taper roller bearing using the special tool.

NOTE

Apply the special tool to the inner race only when installing the bearing.



**▶B▶ TAPER ROLLER BEARINGS INSTALLATION**

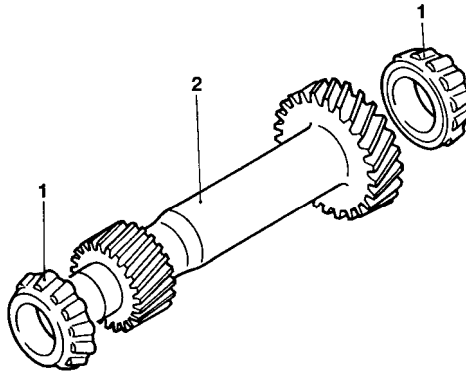
- (1) Install the taper roller bearing using the special tool.


NOTE

Apply the special tool to the inner race only when installing the bearing.

# OUTPUT SHAFT <FWD>

## DISASSEMBLY AND REASSEMBLY

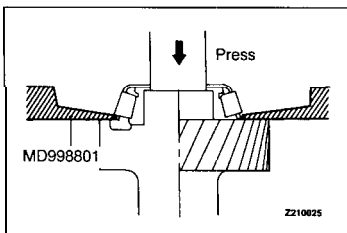


 Lubricate all internal parts with gear oil during reassembly.

Z210028

Disassembly steps

- ◀▶▶▶▶▶ 1. Taper roller bearing  
2. Output shaft

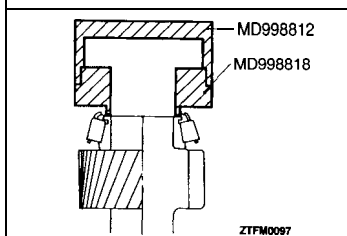


### DISASSEMBLY SERVICE POINTS

#### ◀▶ TAPER ROLLER BEARINGS REMOVAL

**Caution**

- Do not reuse the bearings removed from the shaft.
- Replace the inner and outer races of the taper roller bearing as a set.

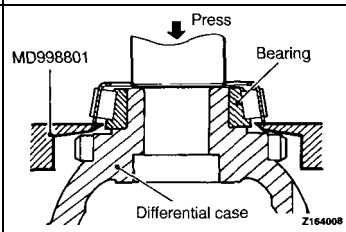


### REASSEMBLY SERVICE POINTS

#### ▶▶ TAPER ROLLER BEARINGS INSTALLATION

**Caution**

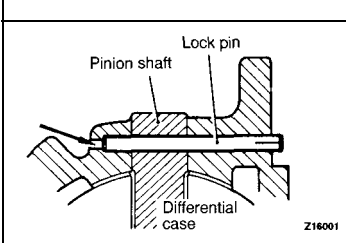
- When installing the bearing, push the inner race only.



◀B▶ TAPER ROLLER BEARING REMOVAL

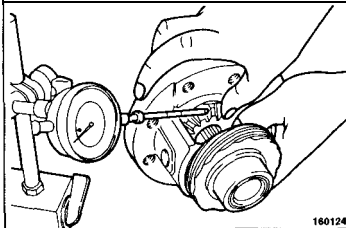
Caution

- Do not reuse the bearing removed from the shaft.
- Replace the inner and outer races of the taper roller bearing as a set.



◀C▶ LOCK PIN REMOVAL

- (1) Drive out the lock pin from the hole A using a punch.



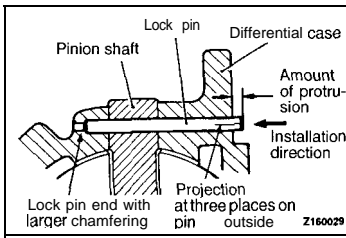
ADJUSTMENT OF PINION BACKLASH

Measure the backlash between the side gears and pinions. Adjust for same backlash of both side gears.

Standard value:

0.025–0.150 mm (.00098–.00591 in.)

If backlash is out of specification, disassemble again and using correct spacer, reassemble and adjust.



REASSEMBLY SERVICE POINTS

▶A◀ LOCK PIN INSTALLATION

- (1) Align the pinion shaft lock pin hole with the case lock pin hole and insert the lock pin.

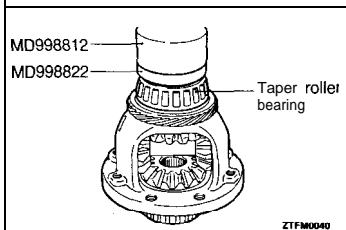
Caution

- Do not reuse the lock pin.
- The lock pin must not protrude more than 3 mm (.118 in.). <FWD>
- The lock pin head must be sunk from the flange surface of the differential case. <AWD>

▶B◀ TAPER ROLLER BEARINGS INSTALLATION

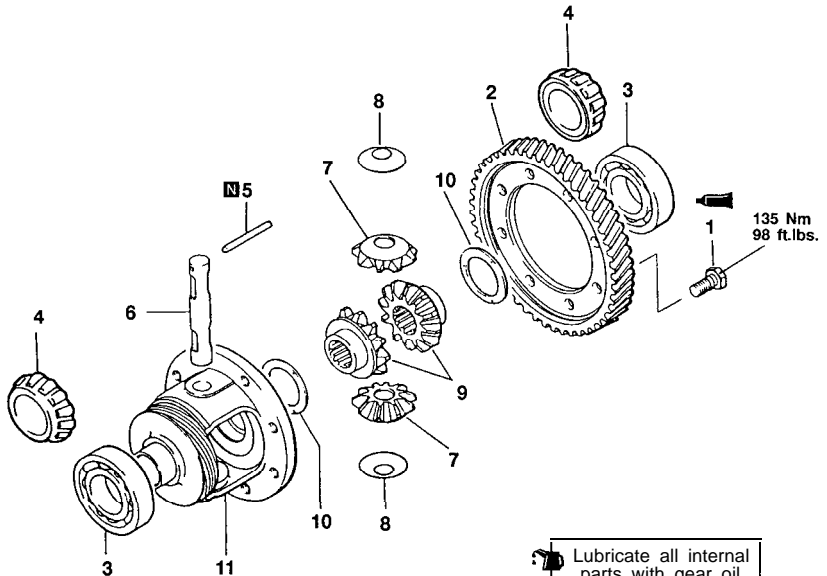
Caution


- When press-fitting the bearings, push the inner race only.



# DIFFERENTIAL

## DISASSEMBLY AND REASSEMBLY

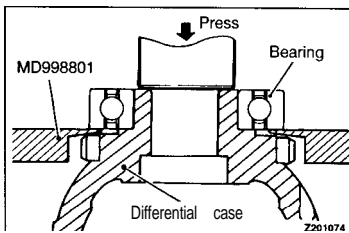


 Lubricate all internal parts with gear oil during reassembly.

2160119

### Disassembly steps

- ▶D◀ 1. Bolt
- ◀A▶ ▶C◀ 2. Differential drive gear
- ◀B▶ ▶B◀ 3. Ball bearing <F4M21, F5M21, W5M31, W5M33>
- ◀C▶ ▶A◀ 4. Taper roller bearing <F5M22, F5M31, F5M33>
- 5. Lock pin
- 6. Pinion shaft
- 7. Pinion
- 8. Washer
- 9. Side gear
- 10. Spacer
- 11. Differential case



### DISASSEMBLY SERVICE POINTS

#### ◀A▶ BALL BEARINGS REMOVAL

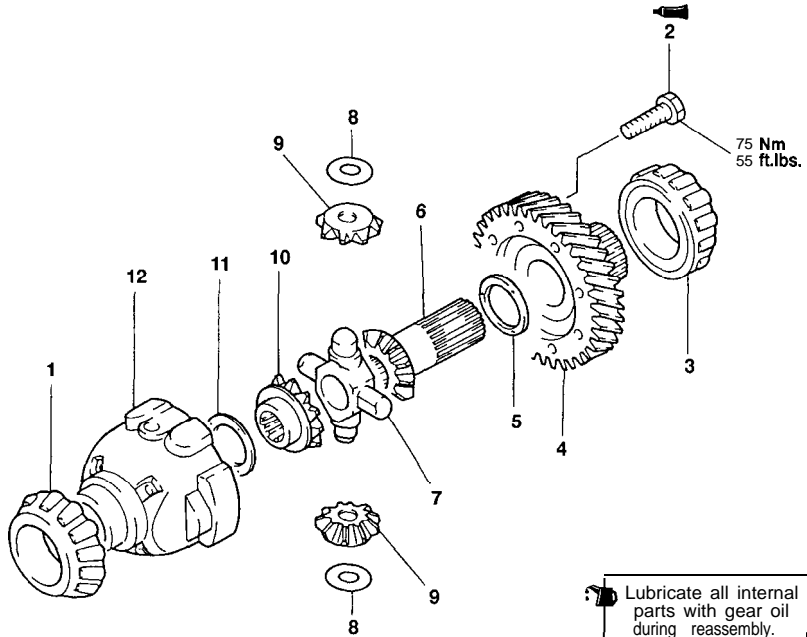
##### Caution


- Do not reuse the bearing removed from the shaft.



**CENTER DIFFERENTIAL <AWD>**

**DISASSEMBLY AND REASSEMBLY – W5M31**

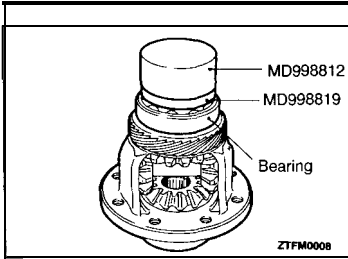


 Lubricate all internal parts with gear oil during reassembly.

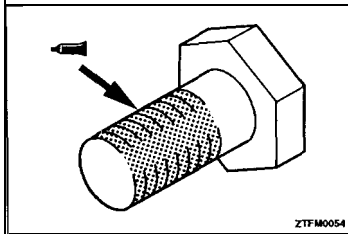
Z2210096

Disassembly steps

- ◀A▶ ▶D▶ 1. Taper roller bearing
- ◀A▶ ▶C▶ 2. Bolt
- ◀A▶ ▶B▶ 3. Taper roller bearing
- ▶A▶ 4. Output gear
- ▶A▶ 5. Spacer
- ▶A▶ 6. Side gear
- ▶A▶ 7. Pinion shaft
- ▶A▶ 8. Washer
- ▶A▶ 9. Pinion
- ▶A▶ 10. Side gear
- ▶A▶ 11. Spacer
- ▶A▶ 12. Center differential case



►◄ BALL BEARINGS INSTALLATION

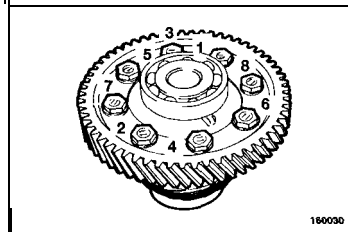


►◄ BOLTS INSTALLATION

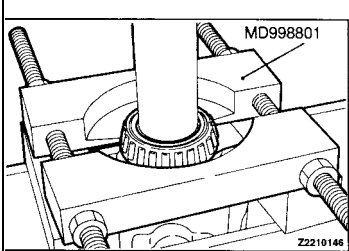
(1) Apply the specified sealant to the bolt threads.

**Specified sealant:**

**3M Stud Locking No.4170 or equivalent**



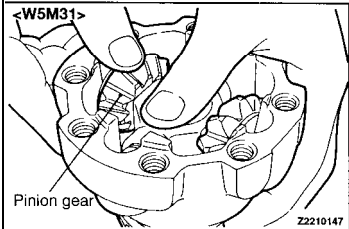
(2) Tighten to the specified torque while following the order given in the illustration.

**DISASSEMBLY SERVICE POINTS****◀▶ TAPER ROLLER BEARINGS REMOVAL**

- (1) Remove the taper roller bearings using the special tool.

**NOTE**

- (1) Do not reuse the bearing removed from the shaft.
- (2) Replace the inner and outer races of the taper roller bearing as a set.

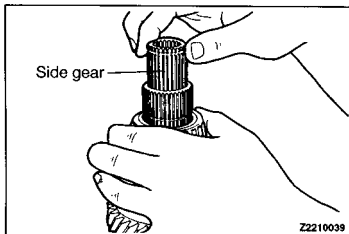
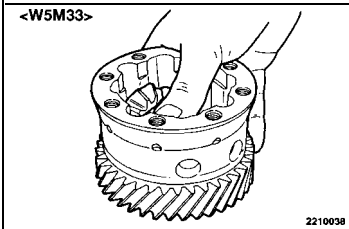
**REASSEMBLY SERVICE POINTS****▶◀ SPACERS INSTALLATION**

- (1) Install the spacer, side gear, pinion gear, washer and pinion shaft to the center differential case.
- (2) Holding down the pinion shaft, select the spacer of maximum thickness that allows the pinion gear to turn lightly and install it to the shaft.
- (3) Install the side gear, spacer and output gear and tighten the bolt to specified torque.
- (4) Select the spacer of maximum thickness that allows the side gear to turn lightly and install it.
- (5) Check that both side gears turn lightly.

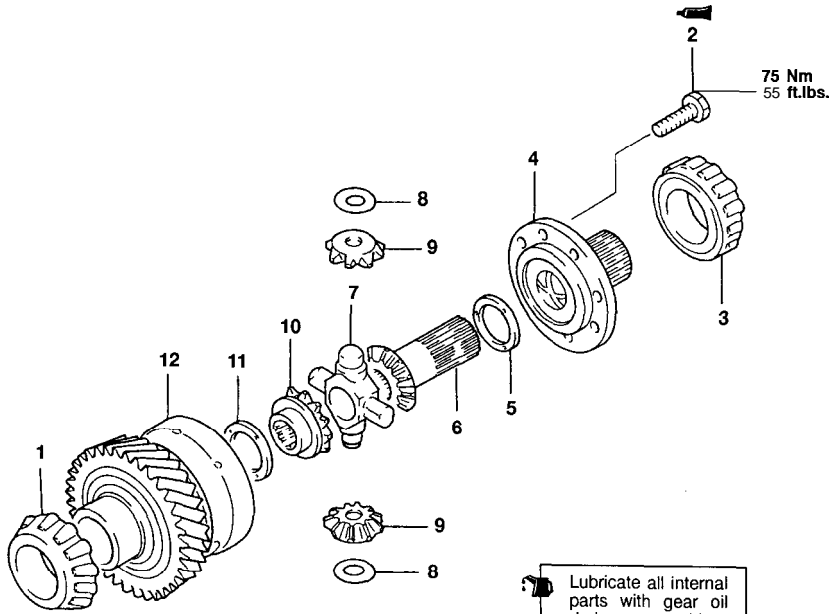
**Standard value:**

**Center differential side gear end play:**

**0.05–0.25 mm (.0020–.0010 in.)**



DISASSEMBLY AND REASSEMBLY – W5M3



Z2250015

Disassembly steps

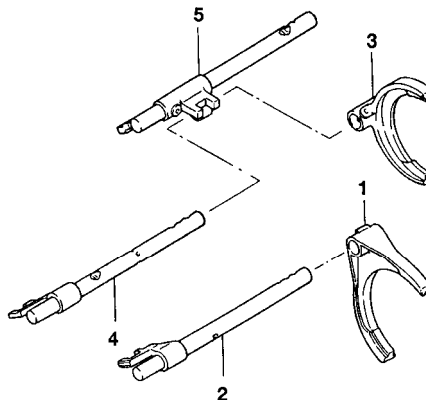
- ◀A▶ ▶D▶ 1. Taper roller bearing
- ▶C▶ 2. Bolt
- ◀A▶ ▶B▶ 3. Taper roller bearing
- ▶A▶ 4. Output gear
- ▶A▶ 5. Spacer
- 6. Side gear
- 7. Pinion shaft
- 6. Washer
- 9. Pinion
- 10. Side gear
- ▶A▶ 11. Spacer
- 12. Center differential case

## SHIFT FORK

## DISASSEMBLY AND REASSEMBLY – F4M21



Lubricate all internal parts with gear oil during reassembly.



Z200005

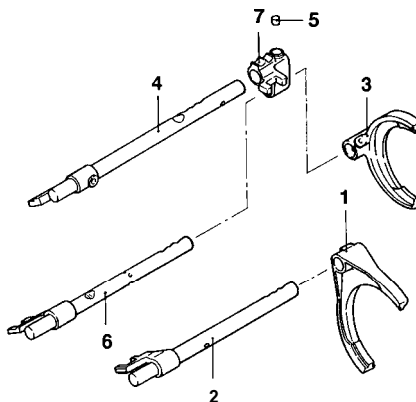
## Disassembly steps

1. 1st-2nd speed shift fork
2. 1st-2nd speed shift rail
3. 3rd-4th speed shift fork
4. 3rd-4th speed shift rail
5. Reverse shift rail

## DISASSEMBLY AND REASSEMBLY – F5M21, F5M22



Lubricate all internal parts with gear oil during reassembly.

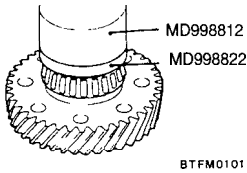


Z201073

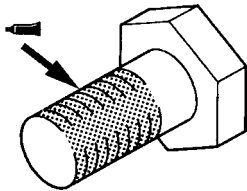
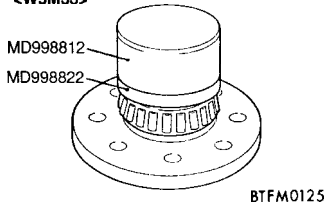
## Disassembly steps

1. 1st-2nd speed shift fork
2. 1st-2nd speed shift rail
3. 3rd-4th speed shift fork
4. 5th-reverse speed shift rail
5. Interlock plunger
6. 3rd-4th speed shift rail
7. Reverse shift lug

<W5M31>



<W5M33>



►B◄ TAPER ROLLER BEARINGS INSTALLATION

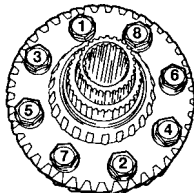
►C◄ BOLTS INSTALLATION

(1) Apply the specified sealant to the bolt threads

**Specified sealant:**

**3M Stud Locking No.4170 or equivalent**

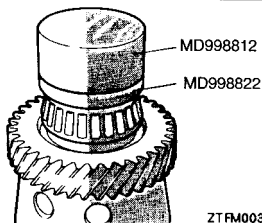
(2) Tighten to the specified torque while following the order given in the illustration.



►D◄ TAPER ROLLER BEARINGS INSTALLATION

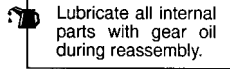
NOTE

Apply the special tool to the inner race only when installing the bearing.

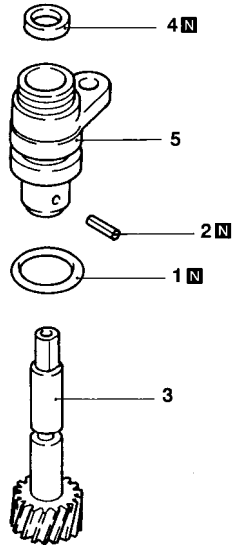


## SPEEDOMETER GEAR

## DISASSEMBLY AND REASSEMBLY



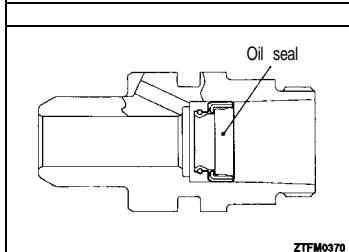
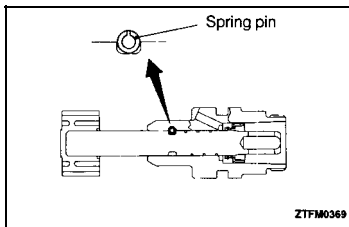
Lubricate all internal parts with gear oil during reassembly.



## Disassembly steps

- ▶B◀ 1. O-ring
- ▶A◀ 2. Spring pin
- ▶A◀ 3. Speedometer driven gear

- ▶C◀ 4. Oil seal
- 5. Sleeve



## REASSEMBLY SERVICE POINTS

## ▶A◀ SPEEDOMETER DRIVEN GEAR INSTALLATION

- (1) Apply gear oil sparingly to the speedometer driven gear shaft and insert the shaft.


## ▶B◀ SPRING PIN INSTALLATION

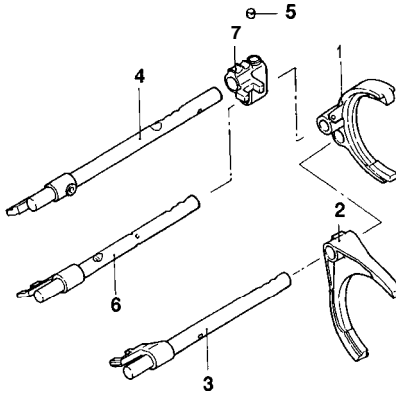
- (1) Install the spring pin in such a way that its slit does not face the gear shaft.

## ▶C◀ OIL SEAL INSTALLATION

- (1) Press into the position and direction indicated in the illustration.

**DISASSEMBLY AND REASSEMBLY – F5M31, F5M33, W5M31, W5M33**

 Lubricate all internal parts with gear oil during reassembly.

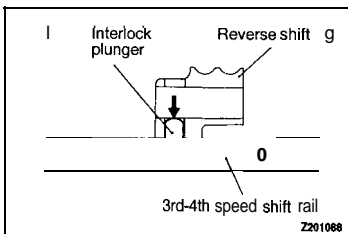


Z210027

**Disassembly steps**

1. 3rd-4th speed shift fork
2. 1st-2nd speed shift fork
3. 3rd-4th speed shift rail
4. 5th-reverse speed shift rail

- ▶A◀ 5. Interlock plunger  
6. 3rd-4th speed shift rail  
7. Reverse shift lug



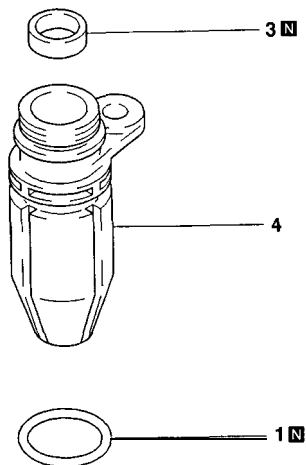
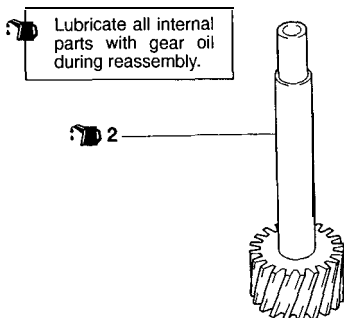
Z201068

**REASSEMBLY SERVICE POINTS**

▶A◀ **INTERLOCK PLUNGER INSTALLATION**



## DISASSEMBLY AND REASSEMBLY &lt;F5M22-2-PQKE and XPXL&gt;



ATFM0584

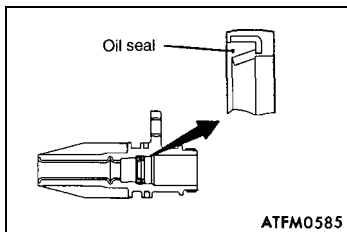
## Disassembly steps

1. O-ring
- ▶B◀ 2. Speedometer driven gear
- ▶A◀ 3. Oil seal
4. Sleeve

## REASSEMBLY SERVICE POINTS

## ▶A◀ OIL SEAL INSTALLATION

- (1) Press into the position and direction indicated in the illustration.



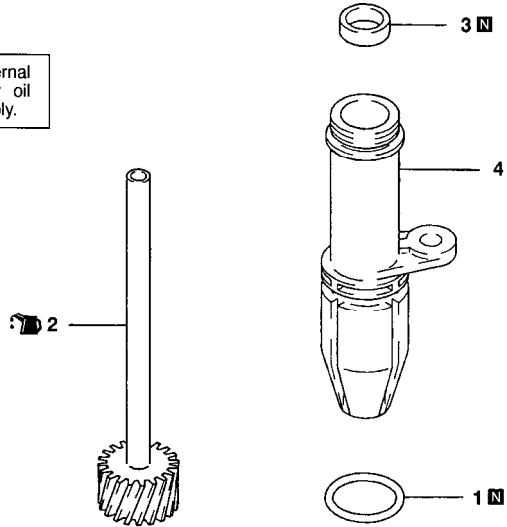
## ▶B◀ SPEEDOMETER DRIVEN GEAR INSTALLATION

- (1) Apply gear oil sparingly to the speedometer driven gear shaft and insert the shaft.

DISASSEMBLY AND REASSEMBLY <F5M31-2-VPXF and VPZF>



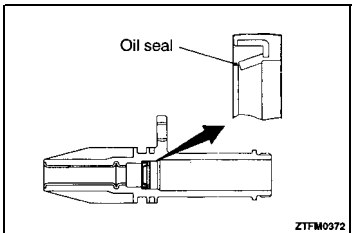
Lubricate all internal parts with gear oil during reassembly.



Disassembly steps

- 1. O-ring
- ▶B◀ 2. Speedometer driven gear
- ▶A◀ 3. Oil seal
- 4. Sleeve

ZTFM0371



ZTFM0272

REASSEMBLY SERVICE POINTS


▶A◀ OIL SEAL INSTALLATION

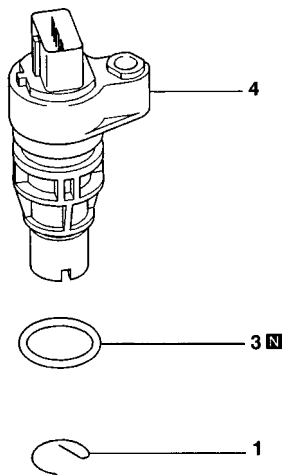
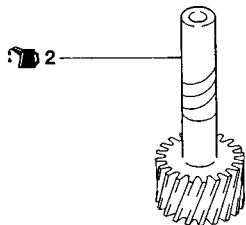
- (1) Press into the position and direction indicated in the illustration.

▶B◀ SPEEDOMETER DRIVEN GEAR INSTALLATION

- (1) Apply gear oil sparingly to the speedometer driven gear shaft and insert the shaft.

## DISASSEMBLY AND REASSEMBLY &lt;F5M33-2-SUQR&gt;

 Lubricate all internal parts with gear oil during reassembly.



ATFM0586

## Disassembly steps

1. e-clip
- ▶A◀ 2. Speedometer driven gear
3. O-ring
4. Sleeve


## REASSEMBLY SERVICE POINT

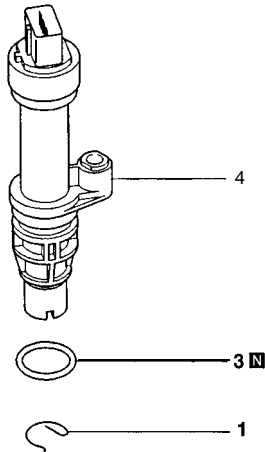
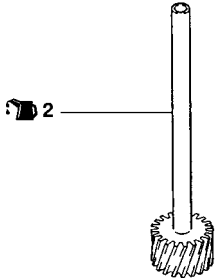
## ▶A◀ SPEEDOMETER DRIVEN GEAR INSTALLATION

Apply gear oil sparingly to the speedometer driven gear shaft and insert the shaft.

**DISASSEMBLY AND REASSEMBLY**

<F5M31-2-VVXF and VVZF, F5M33-2-SPZT, W5M33-2-NPZT>

 Lubricate all internal parts with gear oil during reassembly.



ATFM0580

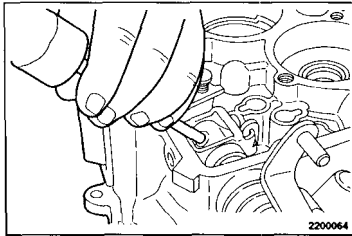
Disassembly steps

- 1. e-clip
- ▶▲ 2. Speedometer driven gear
- 3. O-ring
- 4. Sleeve

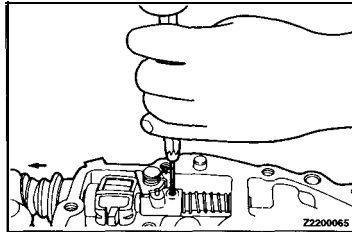
**REASSEMBLY SERVICE POINT**

▶▲▲ **SPEEDOMETER** DRIVEN GEAR INSTALLATION

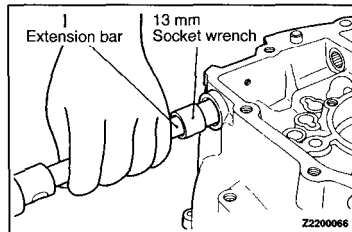
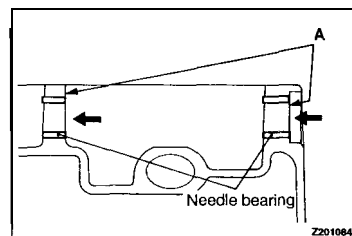
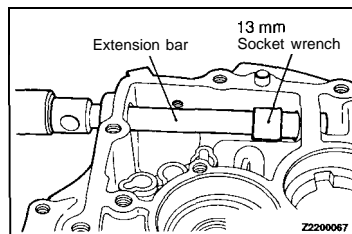
Apply gear oil sparingly to the speedometer driven gear shaft and insert the shaft.

**DISASSEMBLY SERVICE POINTS****◀A▶ LOCK PIN REMOVAL****Caution**

- When removing the lock pin, turn the control lever to such position that the lock pin will not contact the clutch housing.

**◀B▶ SPRING PIN REMOVAL****Caution**

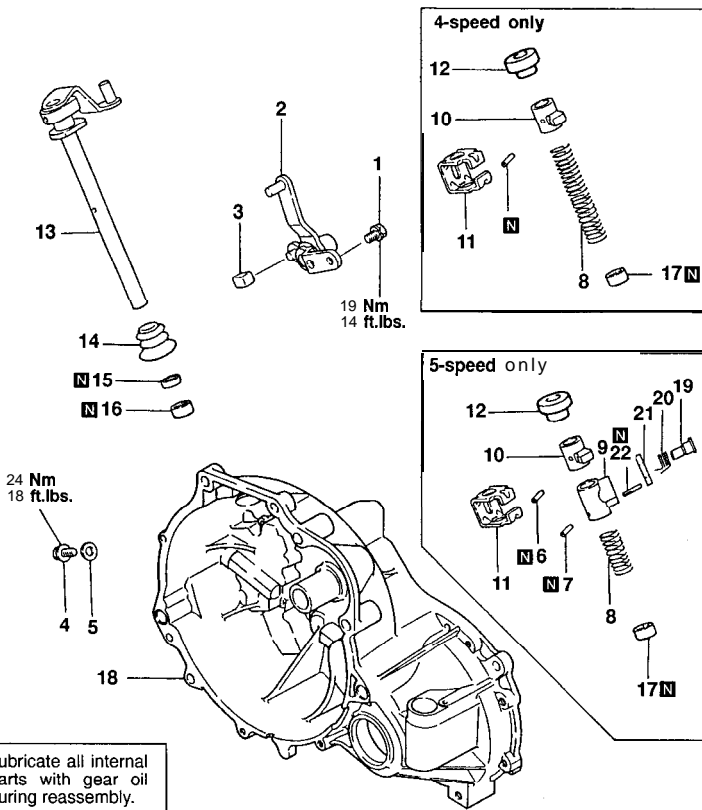
- When removing the spring pin, pull the control shaft in the direction illustrated so that the spring pin will not contact the clutch housing.

**◀C▶ NEEDLE BEARING REMOVAL****REASSEMBLY SERVICE POINTS****▶A◀ NEEDLE BEARINGS INSTALLATION**

- (1) Install the needle bearing flush with the surface A of the clutch housing using a socket wrench.
- (2) Install with the part type stamped side facing the surface A.

# CLUTCH HOUSING

## DISASSEMBLY AND REASSEMBLY



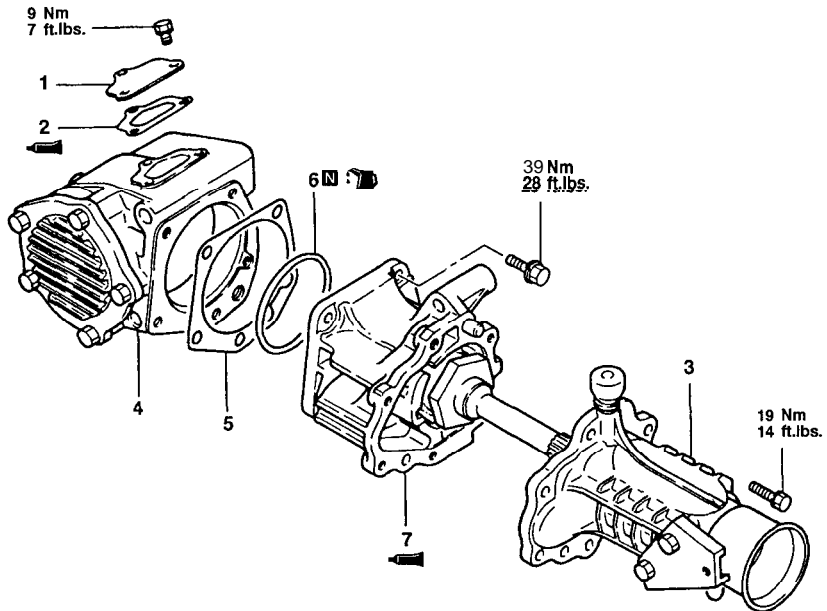
22010011


### Disassembly steps

1. Bolt
2. Select lever assembly
3. Select lever shoe
4. Interlock plate bolt
5. Gasket
6. Lock pin
7. Spring pin
8. Neutral return spring
9. Stopper body
10. Control finger
11. Interlock plate

12. Neutral return spring assembly
13. Control shaft
14. Control shaft boot
15. Oil seal
16. Needle bearing
17. Needle bearing
18. Clutch housing
19. Pin
20. Return spring
21. Stopper plate
22. Spring pin



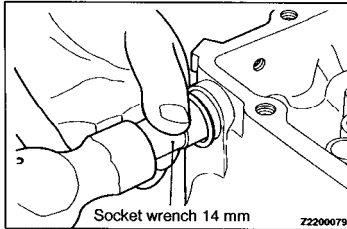
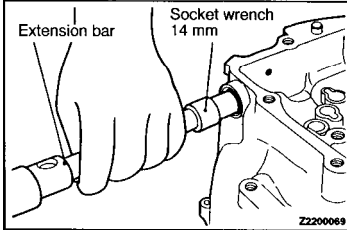
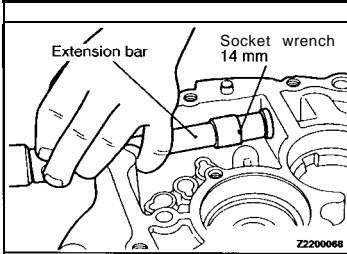
**TRANSFER <AWD>****DISASSEMBLY AND REASSEMBLY**

 Lubricate all internal parts with gear oil during reassembly.

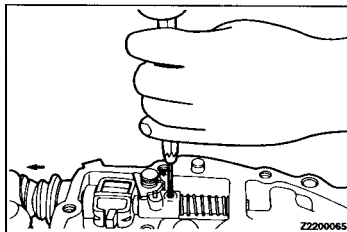
Z2210130

## Disassembly steps

- ▶◀ 1. Cover
- ▶◀C▶ 2. Cover gasket
- ▶◀B▶ 3. Extension housing assembly
- ▶◀ 4. Transfer case sub assembly
- ▶◀ 5. Spacer
- ▶◀A▶ 6. O-ring
- ▶◀ 7. Transfer case adapter sub assembly



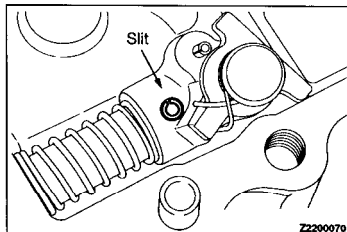
►◄ OIL SEAL INSTALLATION



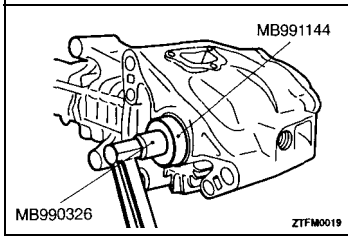
►◄ SPRING PIN / LOCK PIN INSTALLATION

Caution

- Do not reuse the spring pin and lock pin.
- Install the spring pin in such a way its slit will be at right angle to the control shaft center.



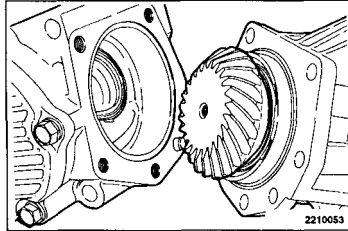




- (7) Turn the drive bevel gear shaft (one forward turn, one reverse turn) using the special tool.

**NOTE**

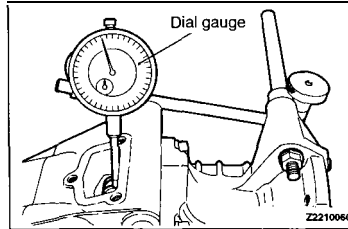
Do not turn the drive bevel gear shaft more than one turn in either direction as this will cause an unclear tooth contact pattern.



- (8) Check to see if the drive bevel gear tooth contact is normal.

**NOTE**

Refer to the TOOTH CONTACT ADJUSTMENT PROCEDURES on next page (below) for the standard tooth contact.



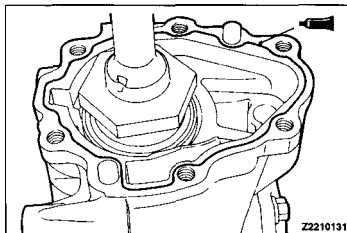
- (9) Check to see if the drive bevel gear and driven bevel backlash is as specified.

**Standard value: Bevel gear set backlash**  
**0.08–0.13 mm (.0031–.0051 in.)**

**▶A◀ O-RING INSTALLATION**

**Caution**

Apply transmission oil to the O-ring before installation.



**▶B◀ EXTENSION HOUSING INSTALLATION**

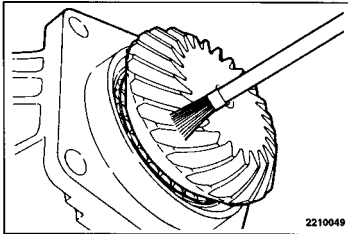
- (1) Apply sealant to the adapter flange surface and install the extension housing.

**Specified sealant:**

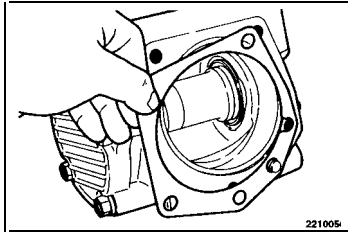
**Mitsubishi genuine Sealant Part No.MD997740 or equivalent**

**NOTE**

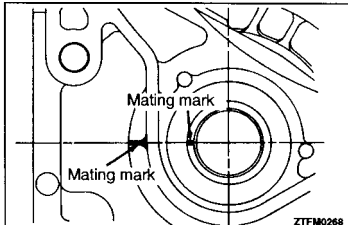
Squeeze out sealant from the tube uniformly and continuously in adequate amount.

**REASSEMBLY SERVICE POINTS****BACKLASH ADJUSTMENT**

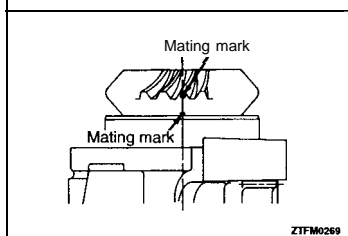
- (1) Apply a light and uniform coat of machine blue or red lead to the driven bevel gear teeth (both sides) using a brush.



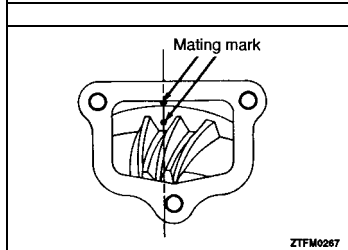
- (2) Install the spacer that has been used.



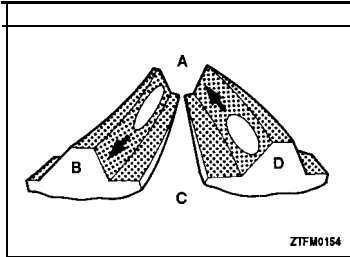
- (3) Align the transfer case and drive bevel gear mating marks.



- (4) Align the transfer case adapter and drive bevel gear mating marks.
- (5) Assemble the transfer case and transfer case adapter and tighten to the specified torque.

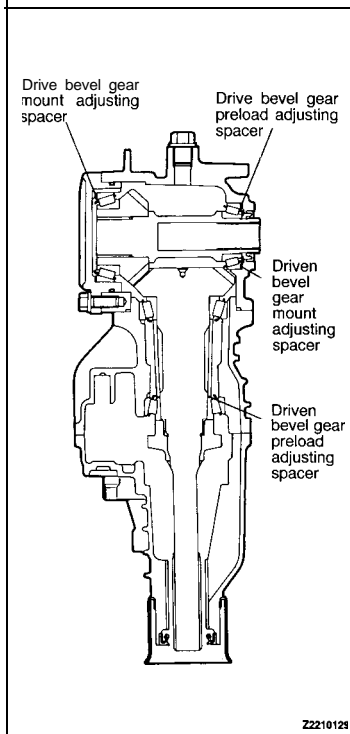


- (6) With the mating marks aligned as in step (3), confirm that the transfer case and drive bevel gear mating marks are matched looking from the cover.



## Remedy

Use thinner driven bevel gear mount adjusting spacer to bring the driven bevel gear more closer to the drive bevel gear.



## NOTE

(1) If correct tooth contact cannot be obtained even by change of the driven bevel gear mount adjusting spacer, increase or decrease or decrease the drive bevel gear preload adjusting spacer and the drive bevel gear mount adjusting spacer as described below and then adjust tooth contact again.

- When the driven bevel gear height is too small even if the thinnest driven bevel gear mount adjusting spacer 0.13 mm (.0051 in.) is used:

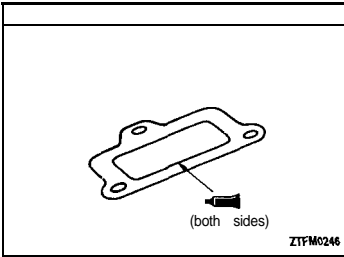
Replace the drive bevel gear mount adjusting spacer that is in use with one that is one rank thicker and replace the drive bevel preload adjusting spacer that is in use with one that is one rank thinner.

- When the driven bevel gear height is too large even if the thickest driven bevel gear mount adjusting spacer 0.52 mm (.025 in.) is used:

Replace the drive bevel gear mount adjusting spacer that is in use with one that is one rank thinner and replace the drive bevel gear preload adjusting spacer that is in use with one that is one rank thicker.

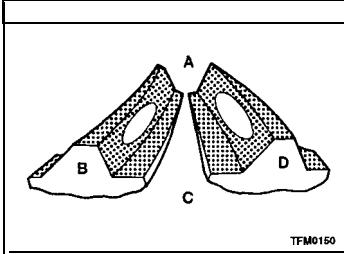
(2) Repeat above steps until the tooth contact pattern equal or close to the standard pattern is obtained.

(3) If the tooth contact pattern cannot be adjusted close to the standard pattern by above adjustment, replace the drive bevel gear and driven bevel gear as a set and readjust the tooth contact.



►◄ SEALANT APPLICATION TO COVER GASKET

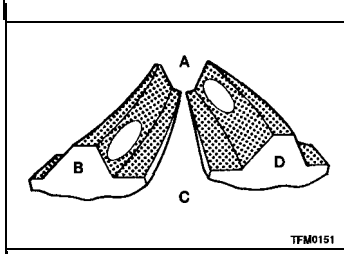
Specified sealant:  
 3M ATD Part No.8660 or equivalent



**TOOTH CONTACT ADJUSTING PROCEDURES**

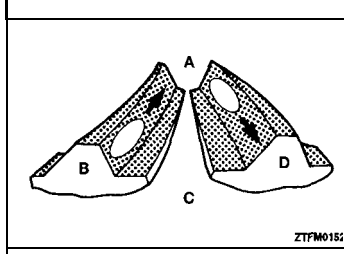
**1. Standard tooth contact pattern**

- A ... Small end side
- B Drive side tooth face  
(Side on which force acts when running forward)
- C . Big end side
- D.... Coast side tooth face  
(Side on which force acts when reversing)

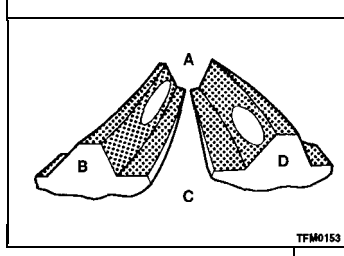


**2. Tooth contact pattern produced when drive bevel gear height is too large**

Cause  
 The driven bevel is too close to the drive bevel gear.



Remedy  
 Use thicker bevel gear mount adjusting spacer to separate the driven bevel gear more from the drive bevel gear.

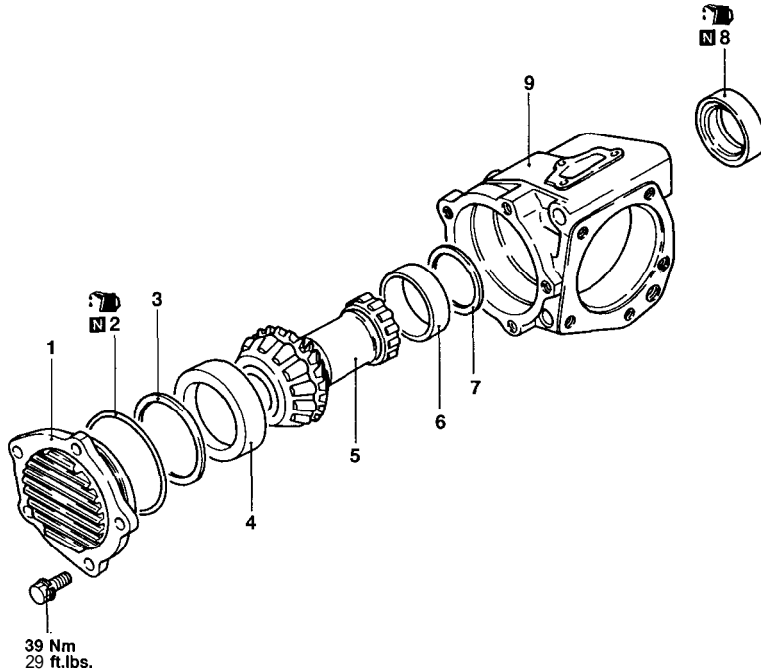



**3. Tooth contact pattern produced when driven bevel gear height is too small**

Cause  
 The driven bevel gear is too separated from the drive bevel gear.

# TRANSFER CASE <AWD>









## DISASSEMBLY AND REASSEMBLY



 Lubricate all internal parts with gear oil during reassembly.

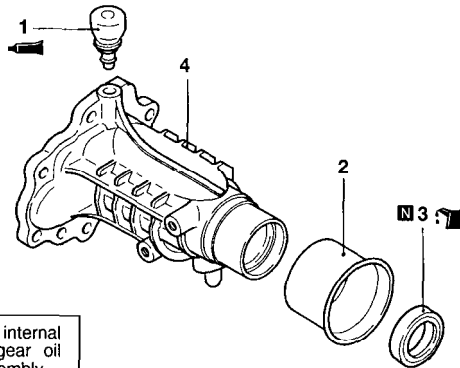
Z2210079

### Disassembly steps

-  1. Transfer cover
-  2. O-ring
-  3. Spacer
-  4. Outer race
-  5. Drive bevel gear assembly
-  6. Outer race
-  7. Spacer
-  8. Oil seal
- 9. Transfer case

# EXTENSION HOUSING <AWD>

## DISASSEMBLY AND REASSEMBLY

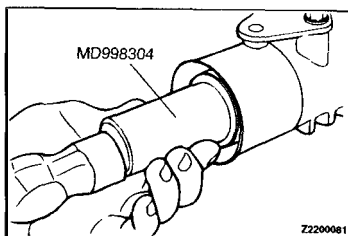


ZTFA0602

Lubricate all internal parts with gear oil during reassembly.

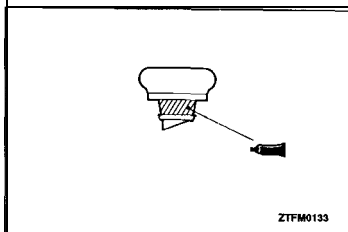
### Disassembly steps

- ▶B◀ 1. Air bleeder
- 2. Dust seal guard
- ▶A◀ 3. Oil seal
- 4. Extension housing



### REASSEMBLY SERVICE POINTS

#### ▶A◀ OIL SEAL INSTALLATION



#### ▶B◀ AIR BLEEDER INSTALLATION

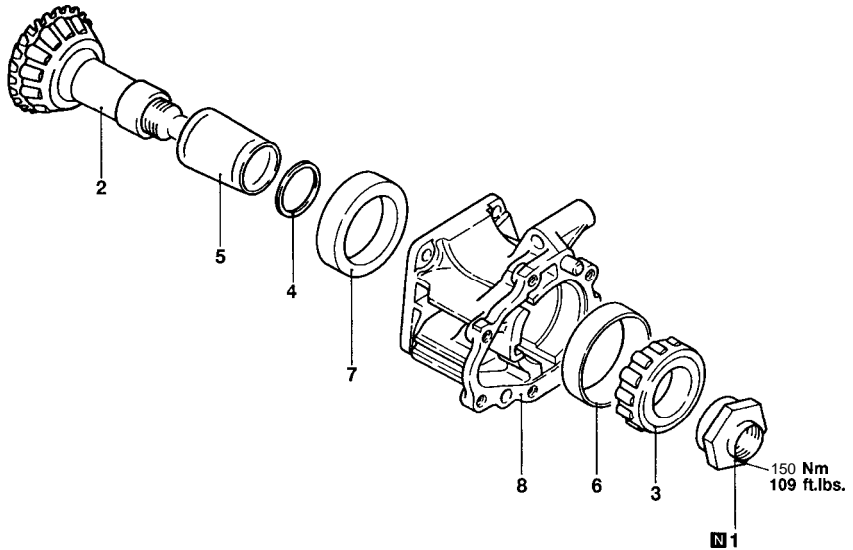
- (1) Install the air bleeder applying sealant to the inserting portion.


**Specified sealant:**

**3M SUPER WEATHERSTRIP No.8001 or equivalent**

## TRANSFER CASE ADAPTER <AWD>

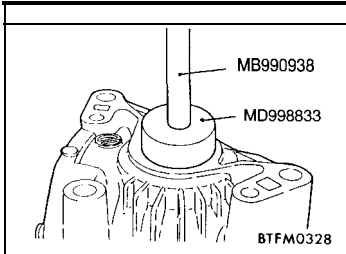
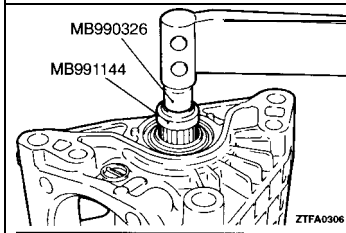
### DISASSEMBLY AND REASSEMBLY



 Lubricate all internal parts with gear oil during reassembly.

Z2210133

- Disassembly steps
- ◀A▶▶C▶ 1. Lock nut
  - ▶B▶▶A▶ 2. Driven bevel gear assembly
  - ▶B▶▶A▶ 3. Taper roller bearing
  - ▶A▶▶A▶ 4. Spacer
  - ▶A▶▶A▶ 5. Collar
  - ▶A▶▶A▶ 6. Outer race
  - ▶A▶▶A▶ 7. Outer race
  - ▶A▶▶A▶ 8. Transfer case assembly

**REASSEMBLY SERVICE POINTS****►A◄ OIL SEAL INSTALLATION****►B◄ SPACER SELECTION**

- (1) Use the existing spacer to assemble the transfer case.
- (2) Using the special tool, check that the bevel gear rotating drive torque is within standard range.

**Standard value:**

**1.7-2.5 Nm (1.23-1.81 ft.lbs.)**

- (3) If the rotating drive torque is outside of the standard range, adjust using adjusting spacers.

**NOTE**

For adjustment, use two spacers of which thickness is as close as possible to each other.

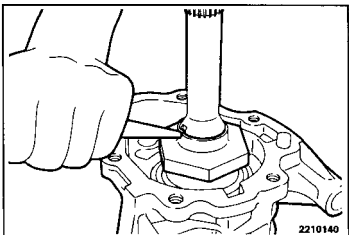
**►C◄ O-RING INSTALLATION****Caution**

**Apply transmission oil to the O-ring before installation.**

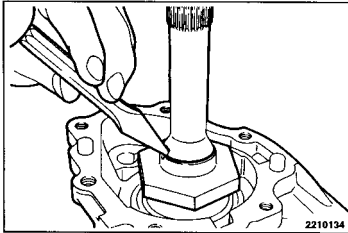


## 22A-114 F4M2,F5M2,F5M3,W5M3 – Transfer Case Adapter <AWD>

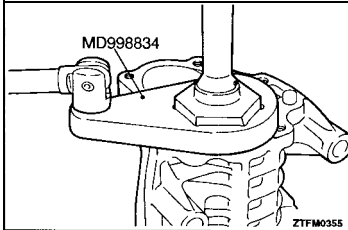
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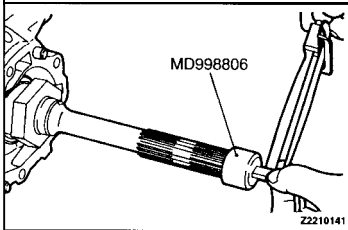
(2) Lock the lock nut at two positions.

**DISASSEMBLY SERVICE POINTS****◀A▶ LOCK NUT REMOVAL**

(1) Unlock the lock nut. (Straighten the bent nut.)



(2) Holding the driven bevel gear in a vice and using the special tool, remove the lock nut.

**REASSEMBLY SERVICE POINTS****▶A▶ SPACER SELECTION**

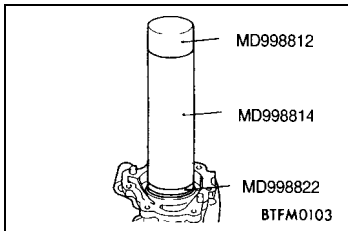
(1) Use the existing spacer to assemble the transfer case adapter.

(2) Using the special tool, check that the bevel gear rotating drive torque is within standard range.

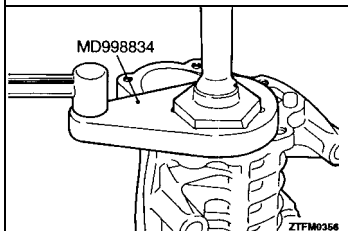
**Standard value:**

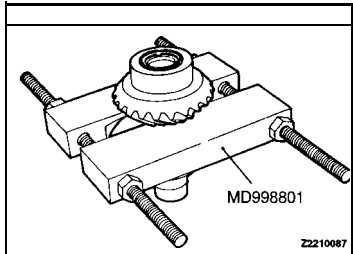
**1.0–1.7 Nm (0.72–1.23 ft.lbs.)**

(3) If the rotating drive torque is outside of the standard range, adjust using adjusting spacers.

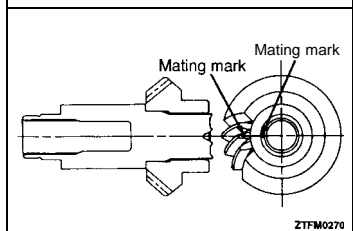
**▶B▶ TAPER ROLLER BEARING INSTALLATION****▶C▶ LOCK NUT INSTALLATION**

(1) Holding the driven bevel gear in a vice and using the special tool, tighten the lock nut to specified torque.





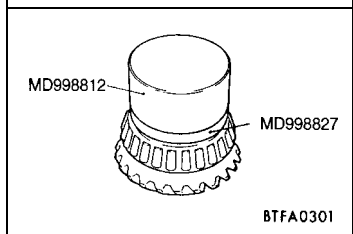
◀B▶ DRIVE BEVEL GEAR REMOVAL



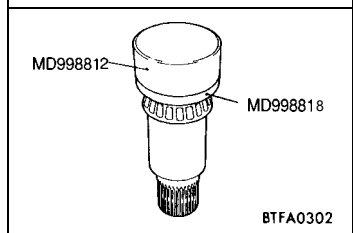
REASSEMBLY SERVICE POINTS

▶A◀ TRANSFER DRIVE BEVEL GEAR INSTALLATION

- (1) Install the drive bevel gear and drive bevel gear shaft with the mating marks aligned.

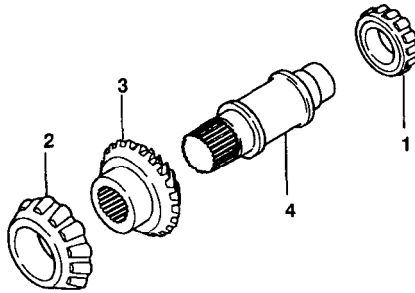



▶B◀ TAPER ROLLER BEARING INSTALLATION



**DRIVE BEVEL GEAR <AWD>**

**DISASSEMBLY AND REASSEMBLY**



 Lubricate all internal parts with gear oil during reassembly.

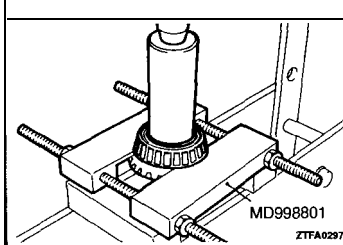
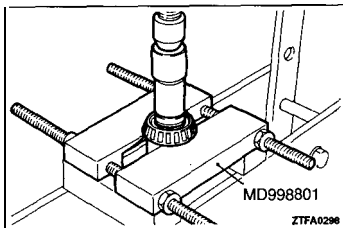
Z2210142

**Disassembly steps**

- ◀A▶▶B▶ 1. Taper roller bearing
- ◀A▶▶B▶ 2. Taper roller bearing
- ◀B▶▶A▶ 3. Drive bevel gear
- 4. Drive bevel gear shaft

**DISASSEMBLY SERVICE POINTS**

◀A▶ TAPER ROLLER BEARING REMOVAL

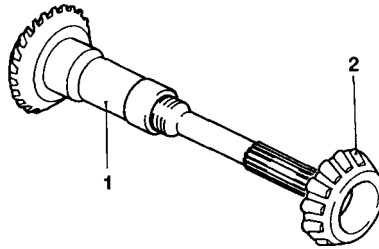



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NOTES

**DRIVEN BEVEL GEAR <AWD>**

**DISASSEMBLY AND REASSEMBLY**

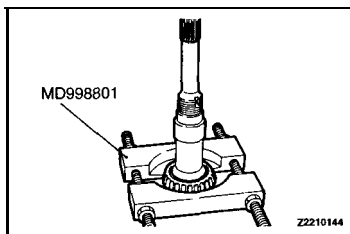


 Lubricate all internal parts with gear oil during reassembly.

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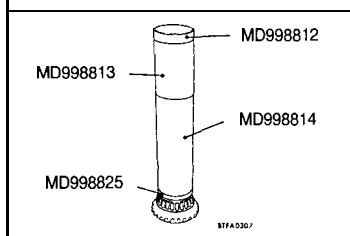
**Disassembly steps**

1. Driven bevel gear
2. Taper roller bearing



**DISASSEMBLY SERVICE POINTS**

**◀A▶ TAPER ROLLER BEARING REMOVAL**



**REASSEMBLY SERVICE POINTS**

**▶A◀ TAPER ROLLER BEARING INSTALLATION**