

# MANUAL TRANSAXLE

## SECTION **MT**

### MODIFICATION NOTICE:

- The service data and specifications (SDS) and parts components have been changed.
- Tightening torque of the transaxle gear control parts has been changed.

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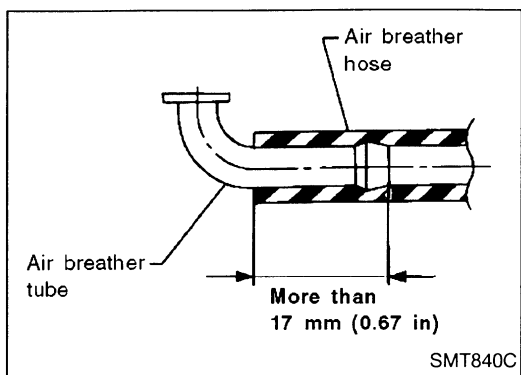
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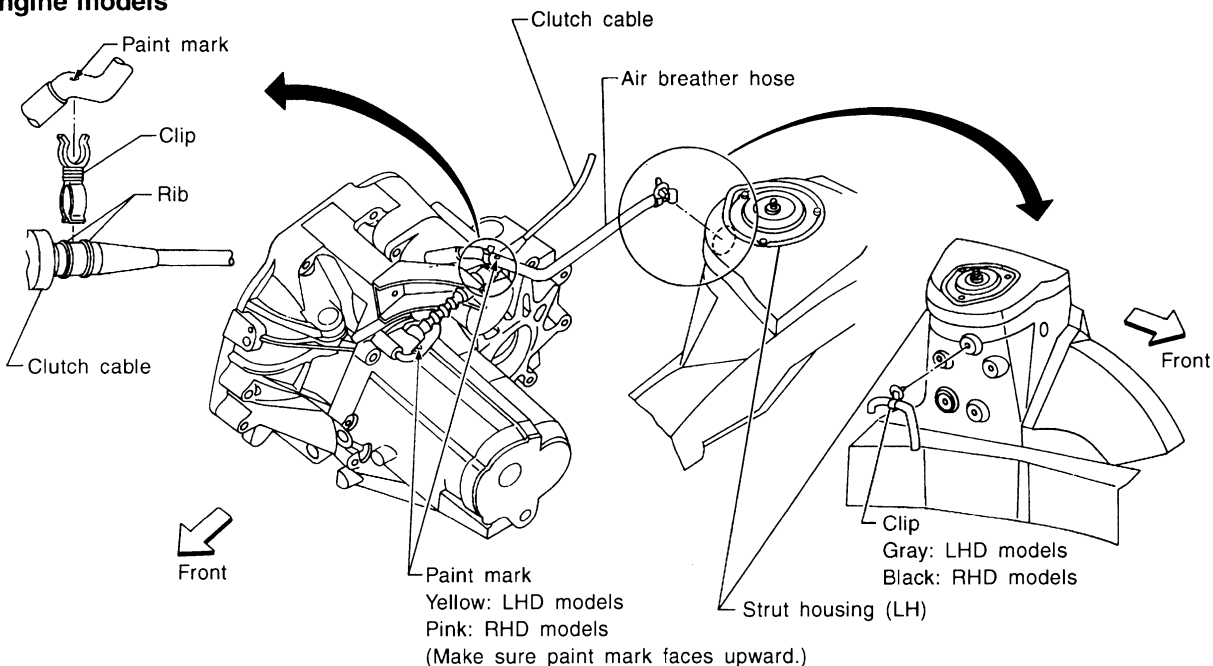
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## Air Breather Hose

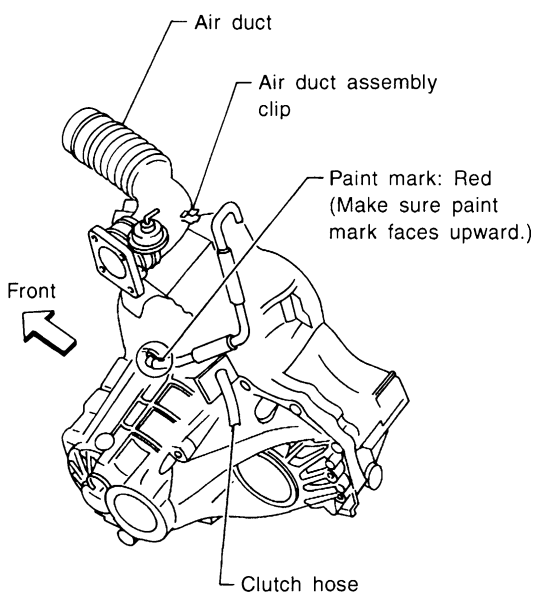
- Refer to the figure below for removal and installation procedures of air breather hose.
- When re-installing air breather hose after removal, install it to the original position as shown in the figure below.
- The hose margin to insert air breather tube should be more than 17 mm (0.67 in). (Insert the hose to the R curve of air breather tube.)



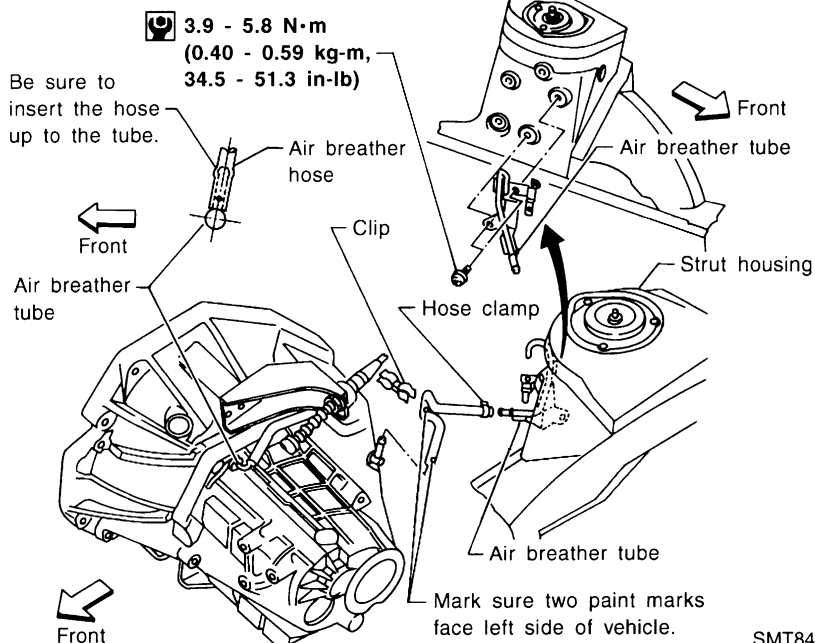
### GA engine models



### CD engine models

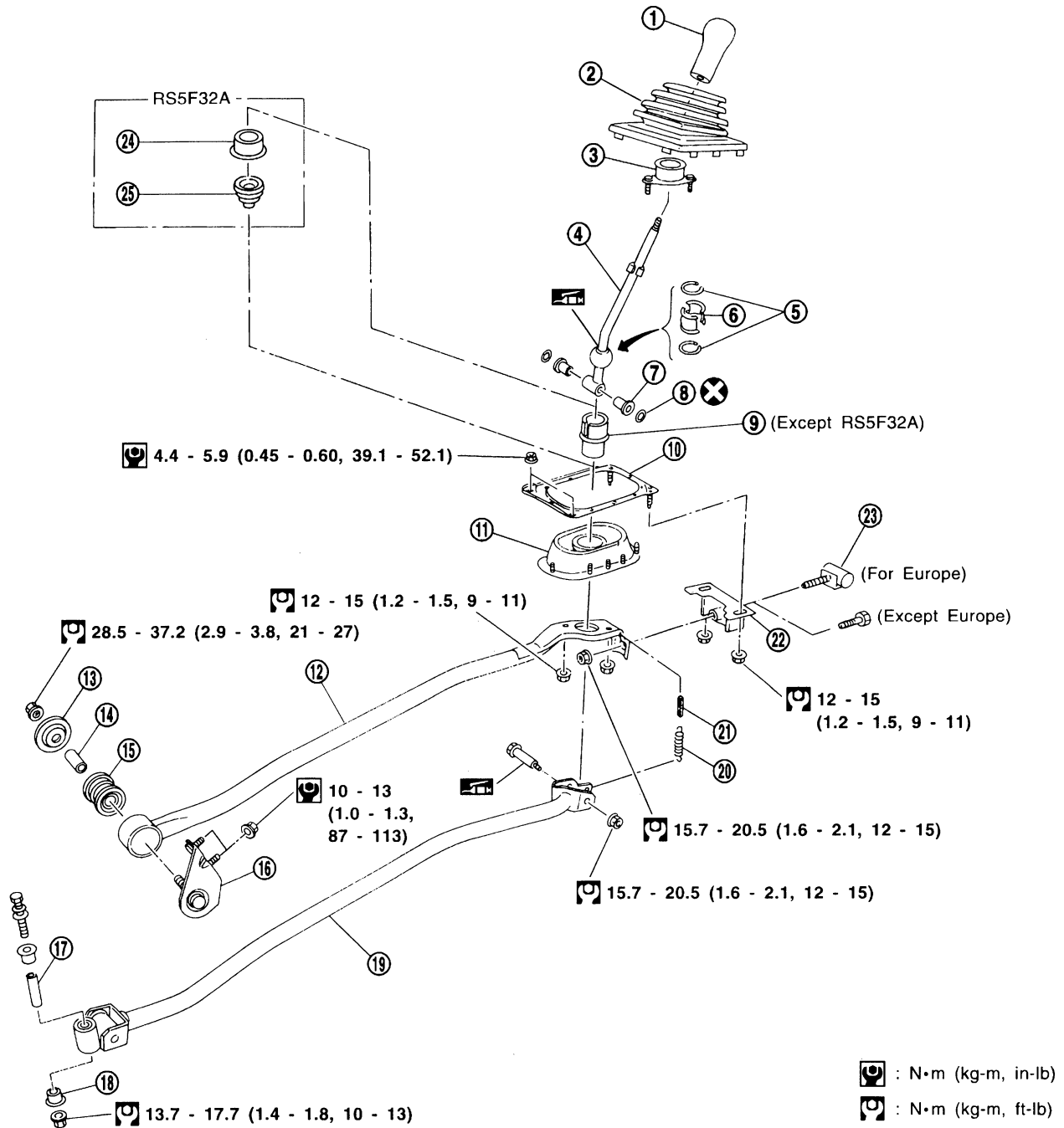


### SR engine models



# TRANSAXLE GEAR CONTROL

SEC. 341



SMT591D

- |                                        |                        |                        |
|----------------------------------------|------------------------|------------------------|
| ① Control lever knob                   | ⑨ Hand lever socket    | ⑮ Bushing              |
| ② Boot                                 | ⑩ Plate bolt           | ⑯ Control rod          |
| ③ Control lever socket                 | ⑪ Transaxle hole cover | ⑰ Return spring        |
| ④ Control lever                        | ⑫ Support rod          | ⑱ Return spring rubber |
| ⑤ Bearing seat spring (Except RS5F32A) | ⑬ Plate                | ⑲ Holder bracket       |
| ⑥ Seat                                 | ⑭ Collar               | ⑳ Mass damper          |
| ⑦ Bushing                              | ⑮ Bushing              | ㉑ Seat bearing set     |
| ⑧ O-ring                               | ⑯ Support rod bracket  | ㉒ Hand lever dust boot |
|                                        | ⑰ Collar               |                        |

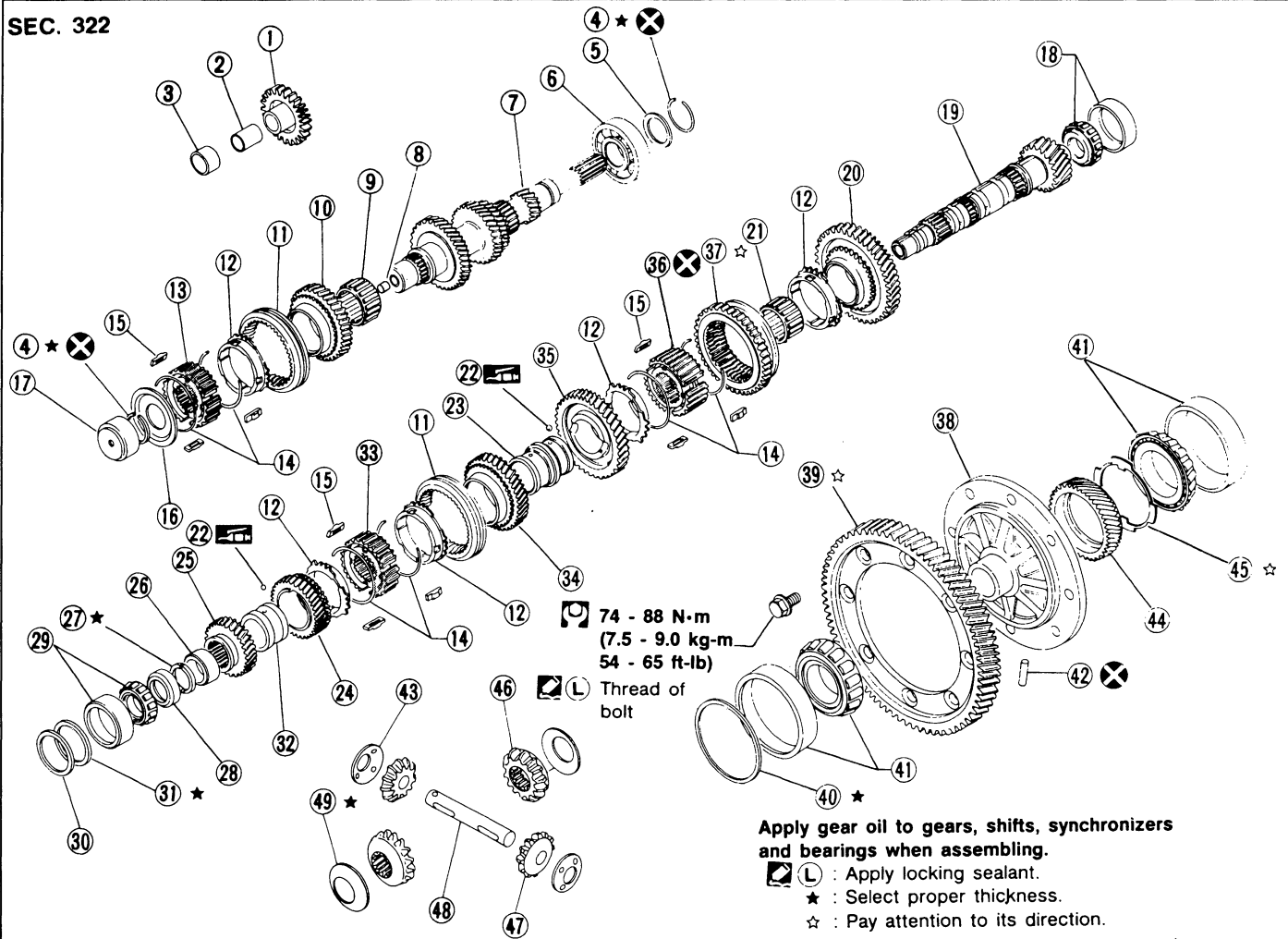
**SEC. 320**



- |                        |                         |                               |
|------------------------|-------------------------|-------------------------------|
| ① Clutch housing       | ⑨ Welch plug            | ⑰ Reverse idler shaft         |
| ② Input shaft oil seal | ⑩ O-ring                | ⑱ Oil channel                 |
| ③ Oil pocket           | ⑪ Case cover            | ⑲ Striking rod oil seal       |
| ④ Bearing retainer     | ⑫ Back-up lamp switch   | ⑳ Boot                        |
| ⑤ Bearing retainer     | ⑬ Differential oil seal | ㉑ Neutral position switch     |
| ⑥ Torx screw           | ⑭ Drain plug            | ㉒ Differential oil seal       |
| ⑦ Filler plug          | ⑮ Transmission case     | ㉓ O-ring                      |
| ⑧ Air breather tube    | ⑯ Oil gutter            | ㉔ Speedometer pinion assembly |

## Gear Components

SEC. 322

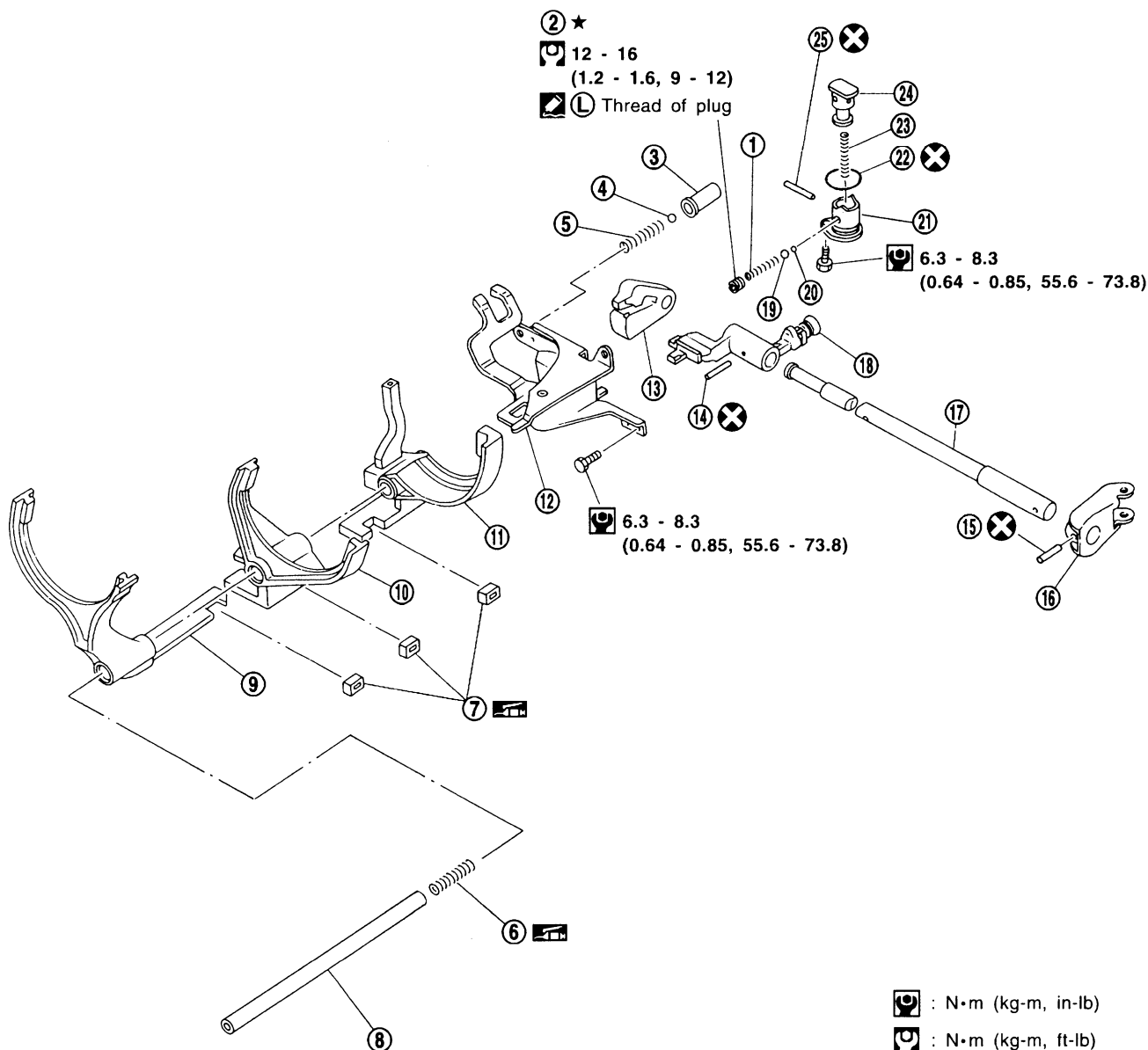


SMT686CA

- |                             |                            |                                       |                                             |
|-----------------------------|----------------------------|---------------------------------------|---------------------------------------------|
| ① Reverse idler gear        | ⑮ Shifting insert          | ⑳ C-ring holder                       | ㉓ Final gear                                |
| ② Reverse idler bushing     | ⑯ 5th stopper              | ㉑ Mainshaft rear bearing              | ④① Differential side bearing adjusting shim |
| ③ Reverse idler spacer      | ⑰ Input shaft rear bearing | ㉒ Spacer                              | ④② Differential side bearing                |
| ④ Snap ring                 | ⑱ Mainshaft front bearing  | ㉓ Mainshaft bearing adjusting shim    | ④③ Retaining pin                            |
| ⑤ Spacer                    | ⑲ Mainshaft                | ㉔ 4th bushing                         | ④④ Pinion mate thrust washer                |
| ⑥ Input shaft front bearing | ㉑ 1st main gear            | ㉕ 3rd & 4th synchronizer hub          | ④⑤ Speedometer drive gear                   |
| ⑦ Input shaft               | ㉒ 1st gear needle bearing  | ㉖ 3rd main gear                       | ④⑥ Speedometer stopper                      |
| ⑧ Oil plug                  | ㉓ Steel ball               | ㉗ 2nd main gear                       | ④⑦ Side gear                                |
| ⑨ 5th gear needle bearing   | ㉔ 2nd & 3rd bushing        | ㉘ 1st & 2nd synchronizer hub          | ④⑧ Pinion mate gear                         |
| ⑩ 5th input gear            | ㉕ 4th main gear            | ㉙ Reverse main gear (Coupling sleeve) | ④⑨ Pinion mate shaft                        |
| ⑪ Coupling sleeve           | ㉖ 5th main gear            | ㉚ Differential case                   | ④⑩ Side gear thrust washer                  |
| ⑫ Baulk ring                | ㉗ Thrust washer            |                                       |                                             |
| ⑬ 5th synchronizer hub      | ㉘ Mainshaft C-ring         |                                       |                                             |
| ⑭ Spread spring             |                            |                                       |                                             |

# Shift Control Components

SEC. 328

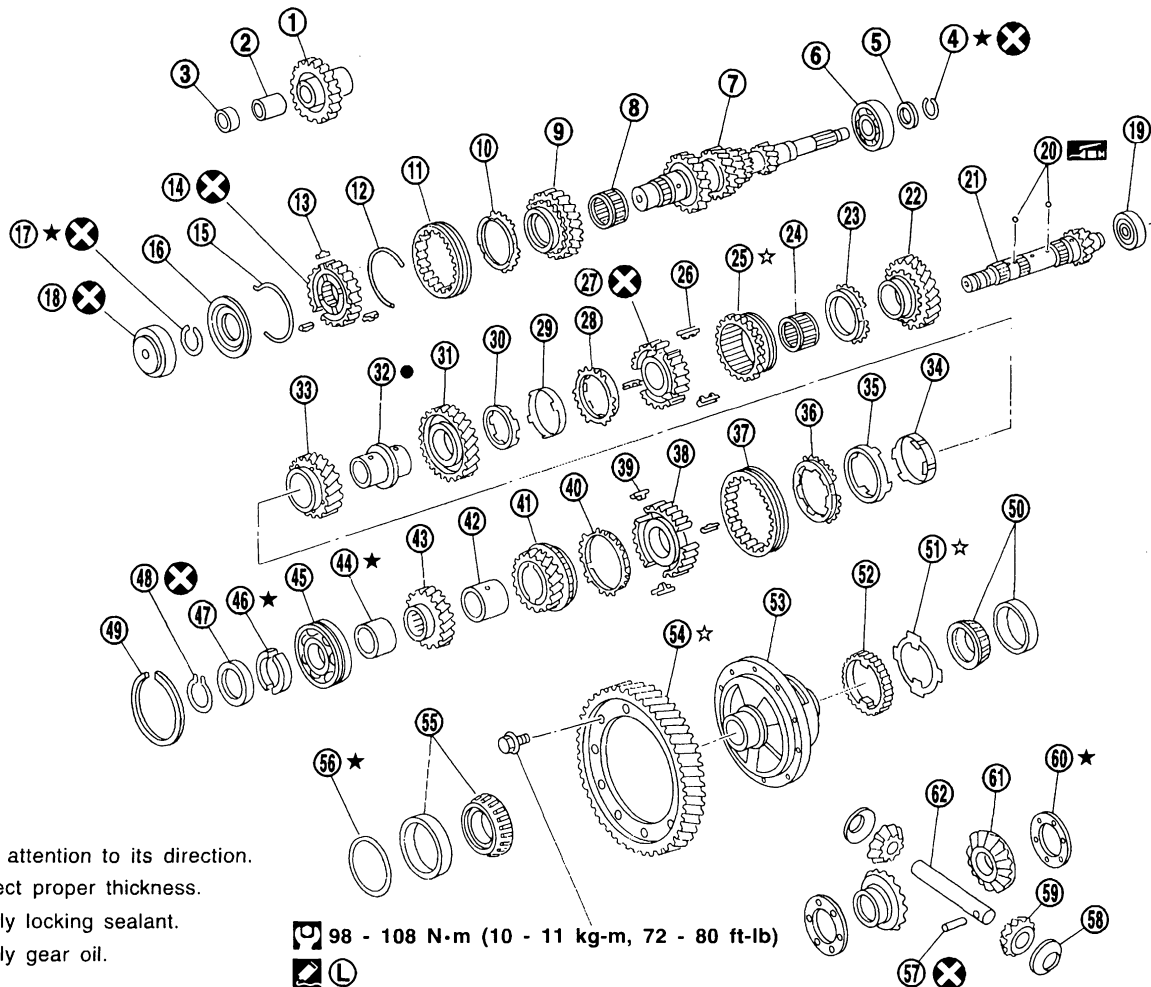


SMT592D

- |                             |                        |                        |
|-----------------------------|------------------------|------------------------|
| ① Reverse check spring      | ⑩ 3rd & 4th shift fork | ⑱ Striking lever       |
| ② Reverse check plug        | ⑪ 1st & 2nd shift fork | ⑲ Check ball (Large)   |
| ③ Check ball plug           | ⑫ Control bracket      | ⑳ Check ball (Small)   |
| ④ Shift check ball          | ⑬ Striking interlock   | ㉑ Check sleeve         |
| ⑤ Shift check spring        | ⑭ Retaining pin        | ㉒ O-ring               |
| ⑥ Fork shaft support spring | ⑮ Retaining pin        | ㉓ Select return spring |
| ⑦ Shifter cap               | ⑯ Yoke                 | ㉔ Check plunger        |
| ⑧ Fork shaft                | ⑰ Striking rod         | ㉕ Stopper pin          |
| ⑨ 5th shift fork            |                        |                        |

# Gear Components

SEC. 322



SMT593D

- |                             |                                        |                                             |
|-----------------------------|----------------------------------------|---------------------------------------------|
| ① Reverse idler gear        | ②② 1st main gear                       | ④③ 5th main gear                            |
| ② Reverse idler bushing     | ②③ Baulk ring                          | ④④ Spacer                                   |
| ③ Reverse idler spacer      | ②④ 1st gear needle bearing             | ④⑤ Mainshaft rear bearing                   |
| ④ Snap ring                 | ②⑤ Reverse main gear (Coupling sleeve) | ④⑥ Mainshaft C-ring                         |
| ⑤ Spacer                    | ②⑥ Insert spring                       | ④⑦ C-ring holder                            |
| ⑥ Input shaft front bearing | ②⑦ 1st & 2nd synchronizer hub          | ④⑧ Snap ring                                |
| ⑦ Input shaft               | ②⑧ 2nd outer baulk ring                | ④⑨ Snap ring                                |
| ⑧ 5th gear needle bearing   | ②⑨ 2nd synchronizer cone               | ⑤① Differential side bearing                |
| ⑨ 5th input gear            | ②⑩ 2nd inner baulk ring                | ⑤② Speedometer stopper                      |
| ⑩ Baulk ring                | ③① 2nd main gear                       | ⑤③ Speedometer drive gear                   |
| ⑪ Coupling sleeve           | ③② 2nd & 3rd bushing                   | ⑤④ Differential case                        |
| ⑫ Spread spring             | ③③ 3rd main gear                       | ⑤⑤ Final gear                               |
| ⑬ Shifting insert           | ③④ 3rd inner baulk ring                | ⑤⑥ Differential side bearing                |
| ⑭ 5th gear synchronizer hub | ③⑤ 3rd synchronizer cone               | ⑤⑦ Differential side bearing adjusting shim |
| ⑮ Spread spring             | ③⑥ 3rd outer baulk ring                | ⑤⑧ Retaining pin                            |
| ⑯ 5th stopper               | ③⑦ Coupling sleeve                     | ⑤⑨ Pinion mate thrust washer                |
| ⑰ Snap ring                 | ③⑧ 3rd & 4th synchronizer hub          | ⑤⑩ Pinion mate gear                         |
| ⑱ Input shaft bearing       | ④① Insert spring                       | ⑥① Thrust washer                            |
| ⑲ Mainshaft front bearing   | ④② Baulk ring                          | ⑥② Side gear                                |
| ⑳ Steel ball                | ④③ 4th main gear                       | ⑥③ Pinion mate shaft                        |
| ㉑ Mainshaft                 | ④④ 4th bushing                         |                                             |

# SERVICE DATA AND SPECIFICATIONS (SDS)

## General Specifications

### TRANSAXLE

| Applied model                    |            |      | Europe                                             | Except for Europe and Australia | Europe and Australia | Except for Europe and Australia | Europe and Australia             |                                        | Europe                                    |                              |
|----------------------------------|------------|------|----------------------------------------------------|---------------------------------|----------------------|---------------------------------|----------------------------------|----------------------------------------|-------------------------------------------|------------------------------|
|                                  |            |      | GA14DE                                             | GA15DE                          | GA16DE               |                                 | SR20DE                           | CD20                                   |                                           |                              |
|                                  |            |      | With catalyzer                                     |                                 |                      | Without catalyzer               |                                  |                                        |                                           |                              |
| Transaxle model                  |            |      | RS5F30A                                            |                                 | RS5F31A              |                                 | RS5F32A                          |                                        | RS5F31A                                   |                              |
| Number of speeds                 |            |      | 5                                                  |                                 |                      |                                 |                                  |                                        |                                           |                              |
| Synchromesh type                 |            |      | Warner                                             |                                 |                      |                                 |                                  |                                        |                                           |                              |
| Shift pattern                    |            |      | <div>135<br/>┌─┴─┐<br/>│N│<br/>└─┬─┘<br/>24R</div> |                                 |                      |                                 |                                  |                                        |                                           |                              |
| Gear ratio                       | 1st        |      | 3.333                                              | 3.333                           | 3.063                |                                 | 3.063                            |                                        | 3.333                                     |                              |
|                                  | 2nd        |      | 1.955                                              | 1.955                           | 1.826                |                                 | 1.826                            |                                        | 1.955                                     |                              |
|                                  | 3rd        |      | 1.286                                              | 1.286                           | 1.286                |                                 | 1.286                            |                                        | 1.286                                     |                              |
|                                  | 4th        |      | 0.902                                              | 0.926                           | 0.975                |                                 | 0.975                            |                                        | 0.902                                     |                              |
|                                  | 5th        |      | 0.756                                              | 0.756                           | 0.810                |                                 | 0.756                            |                                        | 0.756                                     |                              |
|                                  | Reverse    |      | 3.417                                              | 3.417                           | 3.417                |                                 | 3.153                            |                                        | 3.417                                     |                              |
| Number of teeth                  | Input gear | 1st  | 15                                                 | 15                              | 16                   |                                 | 16                               |                                        | 15                                        |                              |
|                                  |            | 2nd  | 22                                                 | 22                              | 23                   |                                 | 23                               |                                        | 22                                        |                              |
|                                  |            | 3rd  | 28                                                 | 28                              | 28                   |                                 | 28                               |                                        | 28                                        |                              |
|                                  |            | 4th  | 41                                                 | 41                              | 40                   |                                 | 40                               |                                        | 41                                        |                              |
|                                  |            | 5th  | 45                                                 | 45                              | 42                   |                                 | 45                               |                                        | 45                                        |                              |
|                                  |            | Rev. | 12                                                 | 12                              | 12                   |                                 | 13                               |                                        | 12                                        |                              |
|                                  | Main gear  | 1st  | 50                                                 | 50                              | 49                   |                                 | 49                               |                                        | 50                                        |                              |
|                                  |            | 2nd  | 43                                                 | 43                              | 42                   |                                 | 42                               |                                        | 43                                        |                              |
|                                  |            | 3rd  | 36                                                 | 36                              | 36                   |                                 | 36                               |                                        | 36                                        |                              |
|                                  |            | 4th  | 37                                                 | 38                              | 39                   |                                 | 39                               |                                        | 37                                        |                              |
|                                  |            | 5th  | 34                                                 | 34                              | 34                   |                                 | 34                               |                                        | 34                                        |                              |
|                                  |            | Rev. | 41                                                 | 41                              | 41                   |                                 | 41                               |                                        | 41                                        |                              |
| Reverse idler gear               |            | 30   |                                                    |                                 |                      | 31                              |                                  | 30                                     |                                           |                              |
| Oil capacity<br>(Reference data) |            |      | ℓ (Imp pt)                                         | 2.8 - 3.0 (4-7/8 - 5-1/4)       |                      | 2.9 - 3.2 (5-1/8 - 5-5/8)       |                                  | Europe<br>3.6 - 3.8<br>(6-3/8 - 6-3/4) | Australia<br>3.7 - 3.9<br>(6-1/2 - 6-7/8) | 2.9 - 3.2<br>(5-1/8 - 5-5/8) |
| Oil level*                       |            |      | mm (in)                                            | 58 - 66 (2.28 - 2.60)           |                      | 57 - 66 (2.24 - 2.60)           |                                  | 40 - 45<br>(1.57 - 1.77)               | 39 - 44<br>(1.54 - 1.73)                  | 54 - 61<br>(2.13 - 2.40)     |
| Remarks                          |            |      | —                                                  |                                 | —                    |                                 | 2nd & 3rd double baulk ring type |                                        | —                                         |                              |

\*: Refer to MA section.

### FINAL GEAR

| Engine           |                            | GA14DE | GA15DE | GA16DE | SR20DE | CD20  |
|------------------|----------------------------|--------|--------|--------|--------|-------|
| Final gear ratio |                            | 4.167  | 3.789  | 4.167  | 4.176  | 3.650 |
| Number of teeth  | Final gear/Pinion          | 75/18  | 72/19  | 75/18  | 71/17  | 73/20 |
|                  | Side gear/Pinion mate gear | 14/10  | 14/10  | 16/10  | 14/10  | 16/10 |

Inspection and Adjustment — RS5F30A &  
RS5F31A

AVAILABLE SHIMS  
— MAINSHAFT AND DIFFERENTIAL SIDE  
BEARING PRELOAD AND ADJUSTING  
SHIM

Bearing preload (Reused bearing)

| Unit: mm (in) |                                  |                           |
|---------------|----------------------------------|---------------------------|
|               | Mainshaft bearing                | Differential side bearing |
| RS5F30A       | 0.20 - 0.25<br>(0.0079 - 0.0098) | 0.24 - 0.32               |
| RS5F31A       |                                  | (0.0094 - 0.0126)         |

- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- FA
- RA
- BR
- ST
- RS
- BT
- HA
- EL
- IDX