HOW TO USE THIS MANUAL

N00BAAZ

CONTENTS

The preceding page contains GROUP INDEX which lists the group title and group number.

PAGE NUMBERS

All page numbers consist of two sets of digits separated by a dash. The digits preceding the dash identify the number of the group. The digits following the dash represent the consecutive page number within the group. The page numbers can be found on the top left or right of each page.

TEXT

Unless otherwise specified, each service procedure covers all models. Procedures covering specific models are identified by the model codes, or similar designation (engine type, transaxle type, etc.). A description of these designations is covered in this unit under "VEHICLE IDENTIFICATION".

TROUBLESHOOTING

Troubleshootings are classified into master troubleshooting and group troubleshooting and located as follows:

The master troubleshooting is prepared when the trouble symptom relates to two or more groups and given in MASTER TROUBLESHOOTING.

The group troubleshooting guide is prepared for causes of problems related to that individual group only; a troubleshooting guide is prepared for each appropriate group.

SERVICE PROCEDURES

The service steps are arranged in numerical order and attentions to be paid in performing vehicle service are described in detail in SERVICE POINTS.

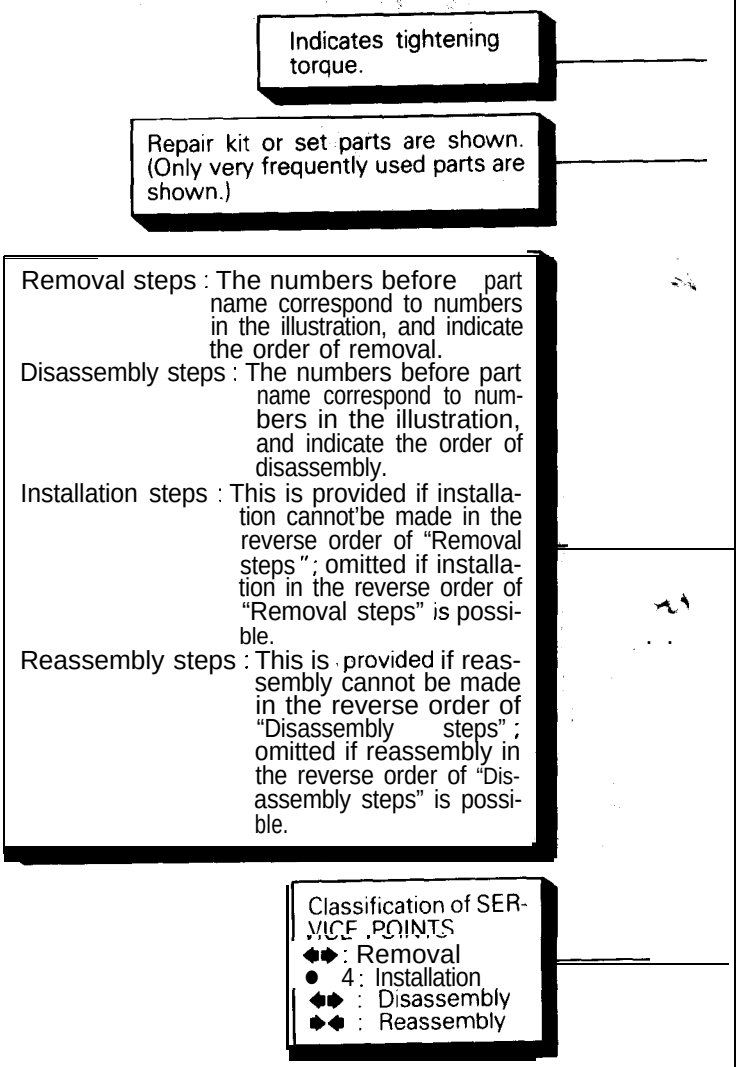
DEFINITION OF TERMS

STANDARD VALUE

Indicates the value used as the standard for judging the quality of a part or assembly on inspection or the value to which the part or assembly is corrected and adjusted. It is given by tolerance.

LIMIT

Shows the standard for judging the quality of a part or assembly on inspection and means the maximum or minimum value within which the part or assembly must be kept functionally or in strength. It is a value established outside the range of standard value.



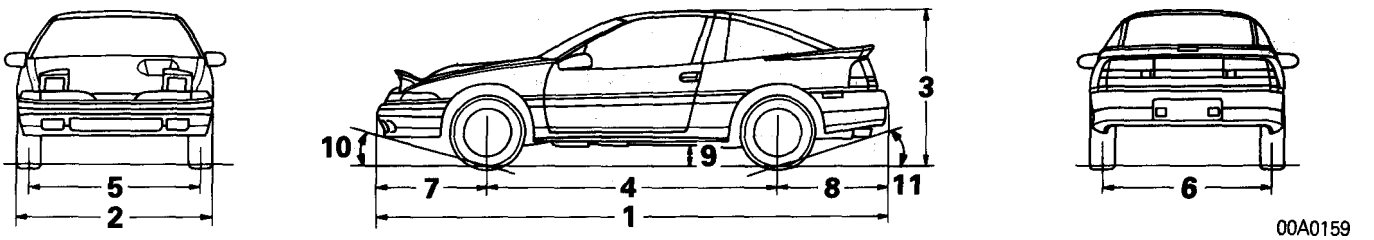
MODEL INDICATIONS

The following abbreviations are used in this manual for classification of model types.

M/T: Indicates the manual transaxle, or models equipped with the manual transaxle.
A/T: Indicates the automatic transaxle, or models equipped with the automatic transaxle.
MPI: Indicates the multi-point injection, or engines equipped with the multi-point injection.
SOHC: Indicates an engine with the single overhead camshaft, or a model equipped with such an engine.
DOHC: Indicates an engine with the double overhead camshaft, or a model equipped with such an engine.
Turbo: Indicates an engine with turbocharger, or a model equipped with such an engine.
Non-Turbo: Indicates an engine without turbocharger, or a model equipped with such an engine.
FWD: Indicates the front wheel drive vehicles.
AWD: Indicates the all wheel drive vehicles.
ABS: Indicates the anti-lock braking system or models equipped with the anti-lock braking system.

GENERAL DATA AND SPECIFICATIONS

N00HA--



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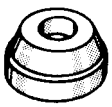
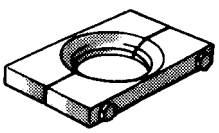
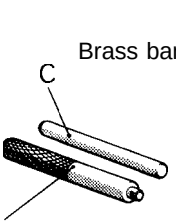
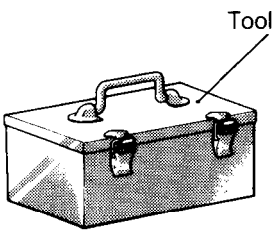
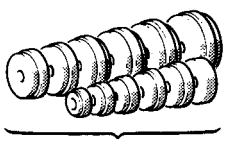
GENERAL SPECIFICATIONS

<PLYMOUTH>

Items			1.8L Engine "Medium"	1.8L Engine "High"	2.0L DOHC Engine (Non-Turbo)	2.0L DOHC Engine (Turbo)
Vehicle dimensions		mm(in.)				
Overall length		1	4,330 (170.5)	4,330 (170.5)	4,330 (170.5)	4,330 (170.5)
Overall width		2	1,690 (66.5)	1,690 (66.5)	1,690 (66.5)	1,690 (66.5)
Overall height		3	1,306 (51.4)	1,306 (51.4)	1,306 (51.4)	1,306 (51.4)
Wheel base		4	2,470 (97.2)	2,470 (97.2)	2,470 (97.2)	2,470 (97.2)
Tread	Front	5	1,465 (57.7)	1,465 (57.7)	1,465 (57.7)	1,465 (57.7)
	Rear	6	1,450 (57.1)	1,450 (57.1)	1,450 (57.1)	1,450 (57.1)
Overhang	Front	7	950 (37.4)	950 (37.4)	950 (37.4)	950 (37.4)
	Rear	8	910 (35.8)	910 (35.8)	910 (35.8)	910 (35.8)
Minimum running ground clearance		9 mm (in.)	160 (6.3)	160 (6.3)	160 (6.3)	160 (6.3)
Angle of approach degrees		10	15.3"	15.3"	15.3"	15.3"
Angle of departure degrees		11	18.1"	18.1"	18.1"	18.1"
Vehicle weight		kg (lbs.)				
Curb weights						
M/T			1,145 (2,524)	1,165 (2,568)	1,215 (2,679)	1,245 (2,745)
A/T			1,170 (2,579)	1,190 (2,623)	1,240 (2,734)	1,280 (2,822)
Gross vehicle weight rating			1,585 (3,494)	1,585 (3,494)	1,630 (3,594)	1,670 (3,682)
Gross axle weight rating						
Front			900 (1,984)	900 (1,984)	930 (2,050)	965 (2,127)
Rear			685 (1,510)	685 (1,510)	700 (1,543)	705 (1,554)
Seating capacity			4	4	4	4
Engine						
Model No.			4G37	4G37	4G63	4G63
Transaxle						
Model No.						
Manual transaxle			F5M22	F5M22	F5M22	F5M33
Automatic transaxle			F4A22	F4A22	F4A22	F4A33
Clutch						
Type			Dry-single disc & diaphragm spring	Dry-single disc & diaphragm spring	Dry-single disc & diaphragm spring	Dry-single disc & diaphragm spring

›ol	Number	Name	I Use
	MB990800	Ball joint remover and installer	Installation of the dust cover
	C-4628	Bearing installer	Removal of wheel bearing
	MB991 248 or MD998801	Inner shaft remover	Removal of the inner shaft
 ar (one-touch type)   A Installer adapter	M 6990925	Bearing and oil seal installer set	Removal and installation of the center bearing Press-fitting of the dust seal

Tool number (MB990925)	O.D. mm (in.)		Tool number (MB990925)	O.D. mm (in.)
MB990926	39 (1.54)	A	MB990933	63.5 (2.50)
MB990927	45 (1.77)		MB990934	67.5 (2.66)
M 8990928	49.5 (1.95)		MB990935	71.5 (2.81)
MB990929	51 (2.01)		MB990936	75.5 (2.97)
MB990930	54 (2.13)		MB990937	79 (3.11)
MB990931	57 (2.24)	B	MB990938	–
M 8990932	61 (2.40)	C	MB990939	–

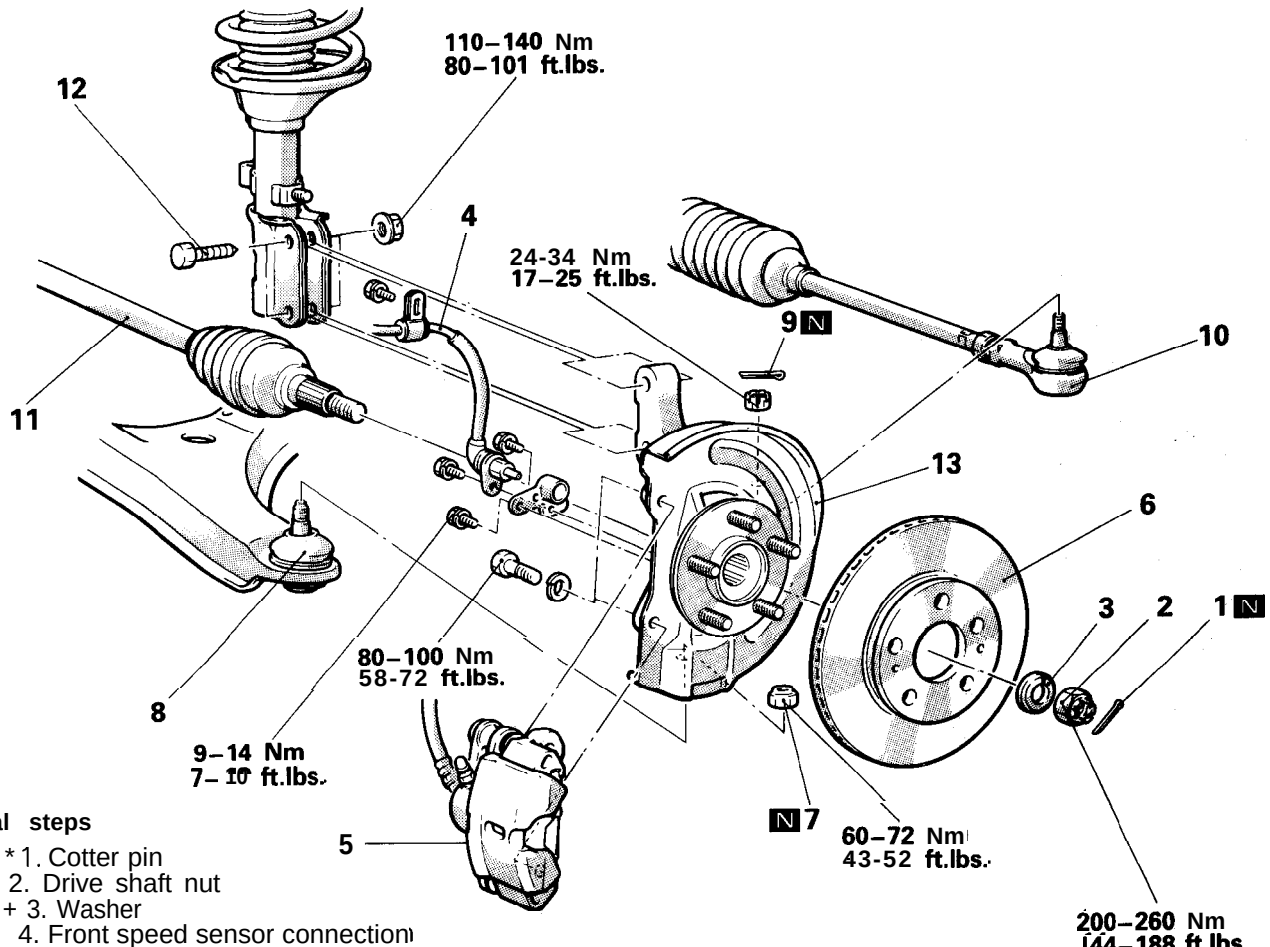
3. For each half turn of the left and right tie rods, the toe-in will be adjusted by 6 mm (.24 in.).
4. After making the adjustments, use a turning radius gauge to confirm that the steering wheel turning angle is within the standard value range. (Refer to GROUP 19–Service Adjustment Procedures.)

WHEEL BEARING ADJUSTMENT N02FCAA

Bearing preload is pre-set to the specified value by design and therefore can not be adjusted.

HUB AND KNUCKLE

REMOVAL AND INSTALLATION N02IA--



Removal steps

- ● *1. Cotter pin
- ◆◆ ▶◀ 2. Drive shaft nut
- ● + 3. Washer
- ◆◆ 4. Front speed sensor connection <Vehicles with ABS> (Refer to GROUP 5–Speed Sensor.)
- ◆◆ 5. Caliper assembly
- 6. Brake disc
- 7. Self locking nut
- ◆◆ ● + 8. Connection for lower arm ball joint
- 9. Cotter pin
- ◆◆ 10.
- ◆◆ 11. Drive shaft
- 12. Front strut mounting bolt
- 13. Hub and knuckle

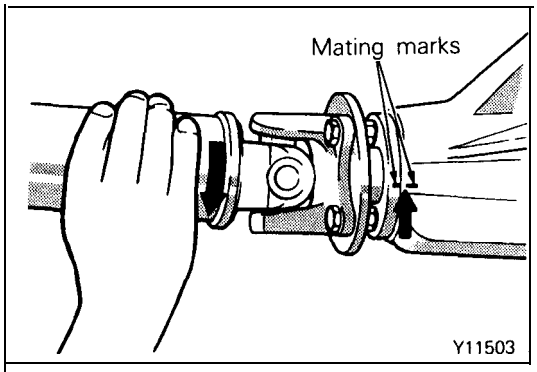
NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Removal".
(3) ● +: Refer to "Service Points of Installation".
(4) N: Non-reusable parts

SERVICE ADJUSTMENT PROCEDURES

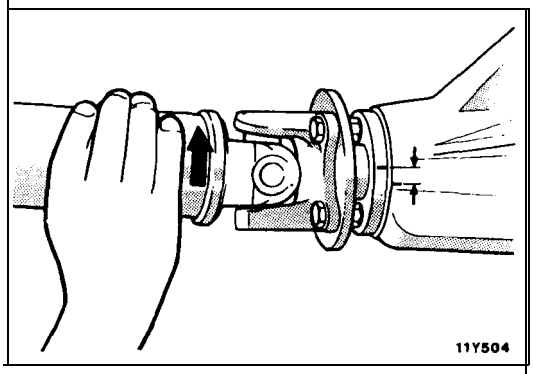
REAR AXLE TOTAL BACKLASH CHECK N03FAAF

If the vehicle vibrates and produces a booming sound due to an imbalance of the driving system, measure the rear axle total backlash by the following procedures to see if the differential carrier assembly required removal.

(1) Place the gearshift lever in the neutral position, apply the parking brake and jack up the vehicle.



(2) Manually turn the propeller shaft clockwise as far as it will go and make mating marks on the companion flange dust cover and the differential carrier.



(3) Manually turn the propeller shaft counterclockwise as far as it will go and measure the movement of the mating marks.

Limit: 5 mm (.2 in.)

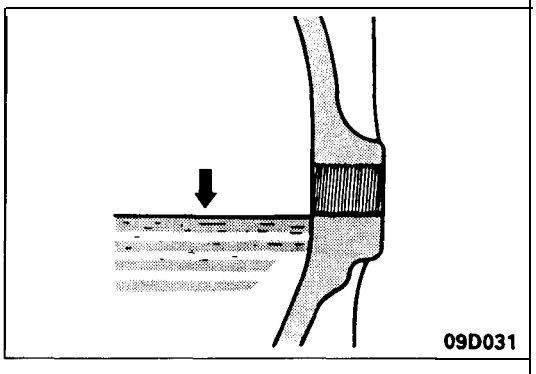
(4) If the backlash exceeds the limit, remove the differential carrier assembly and adjust the backlash. (Refer to P.3-20.)

GEAR OIL LEVEL CHECK N03FCAA

1. Remove the filler plug, and check the oil level.
2. The oil level is sufficient if it reaches the filler plug hole.

Specified gear oil:
MOPAR Hypoid Gear Oil API classification GL-5 or higher [0.7 liter (0.74 qts.)]

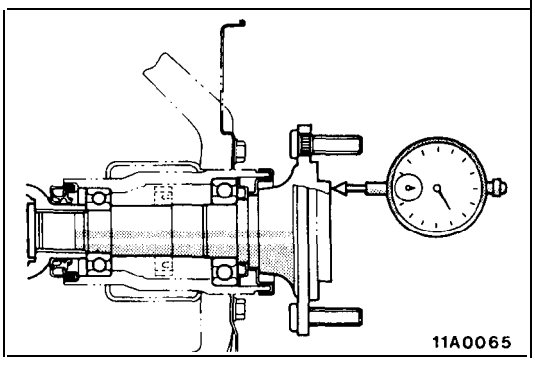
NOTE
Above −23°C (−10°F): SAE 90, 85W−90, 80W−90
From −34°C (−30°F) to −23°C (−10°F): SAE 80W, 80W−90
Below −34°C (−30°F): SAE 75W



REAR WHEEL BEARING END PLAY CHECK N03FBAE

(1) Support the vehicle on axle stands positioned at the specified locations and remove the rear wheel.
(2) Separate the parking brake cable from the rear brake.
(3) Remove the caliper assembly and brake disc.
(4) Place a dial gauge as shown in the figure, and then measure the play when the axle shaft is moved in the axial direction.

Limit: 0.8 mm (.031 in.)



(5) If the play exceeds the limit, check the tightening torque of the companion flange of the axle shaft; if it is correct, replace the wheel bearing.

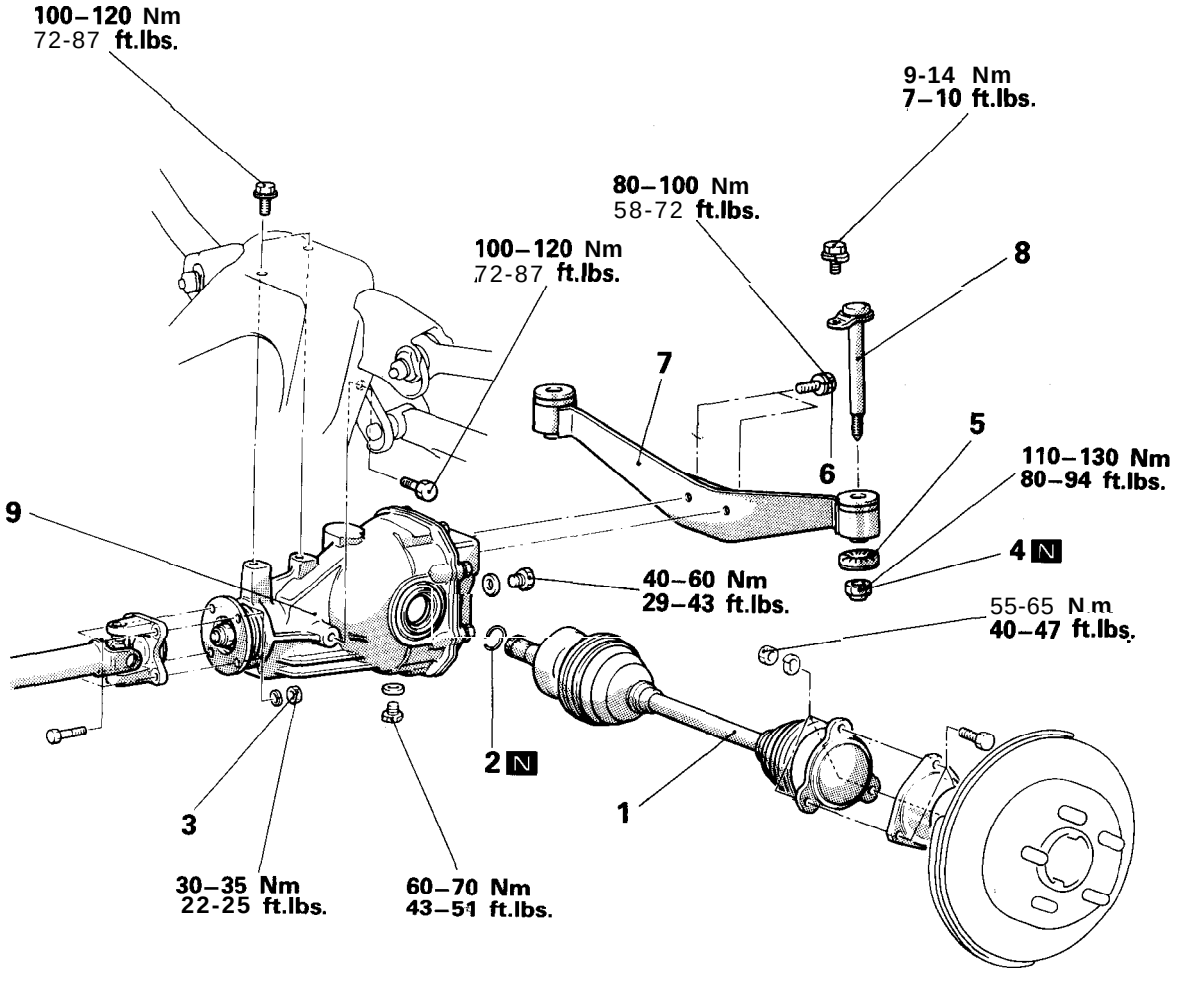
DIFFERENTIAL CARRIER

REMOVAL AND INSTALLATION

N03IA--

Pre-removal Operation
@Drainage of Differential Gear Oil (Refer to P.3-8.)
*Removal of Center Exhaust Pipe (Refer to GROUP 1 l-Exhaust Pipe and Main Muffler.)

Post-installation Operation
- Installation of Center Exhaust Pipe (Refer to GROUP 11–Exhaust Pipe and Main Muffler.)
- Filling Differential Gear Oil (Refer to P.3-8.)



11A0358

Removal steps

◆◆ 1. Drive shaft
2. Circlip
◆◆▶◀ 3. Propeller shaft connection
4. Differential support member installation nut
5. Stopper (lower)
6. Differential support member installation bolts
7. Differential support member
8. Differential support member installation bolts
9. Differential carrier

NOTE
(1) Reverse the removal procedures to reinstall
(2) ◆◆: Refer to "Service Points of Removal".
(2) ▶◀: Refer to "Service Points of Installation".
(3) N: Non-reusable parts.

E-I Input abnormality of wheel speed sensor

[Explanation]

The ABS ECU detects breaks in the wheel speed sensor wire. The warning light lights up if the wheel speed sensor signal is not input (or short circuited) or if its output is low when starting to drive or while driving.

[Hint]

In addition to a broken wire/short circuit in the wheel speed sensor, also check whether the sensor gap is too large, rotor teeth are missing, sensor harness wire is temporarily broken, or sensor harness and body connector are not properly inserted.

E-2 Output abnormality of wheel speed sensor

[Explanation]

The warning light lights up when there is an abnormality (other than broken wire or short circuit) in the wheel speed sensor output signal while driving.

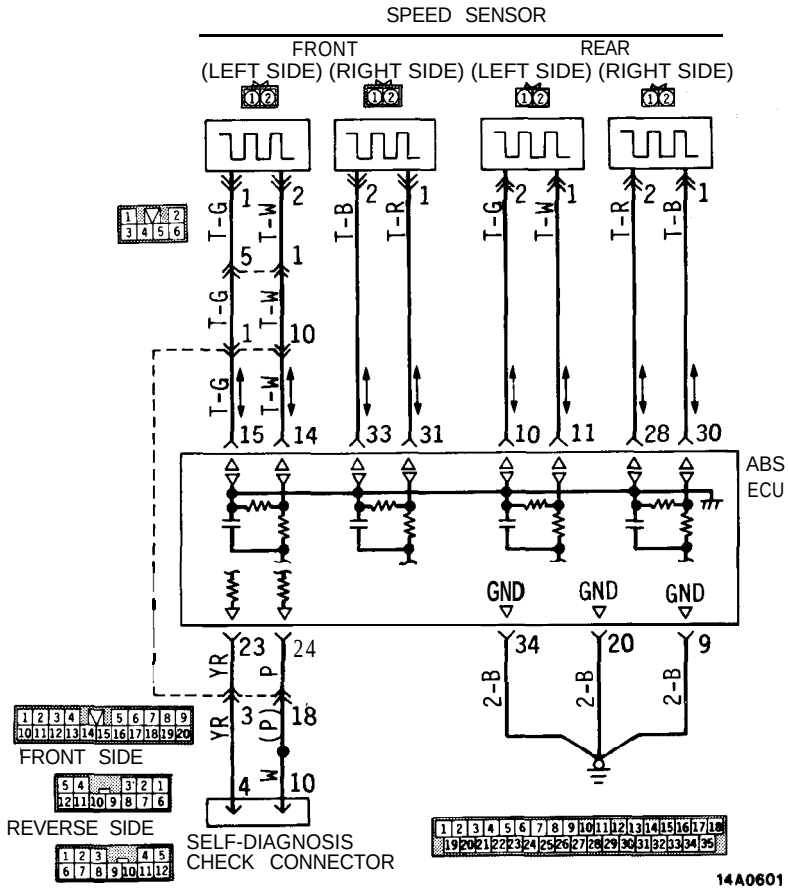
[Hint]

The following can be considered as the cause of the wheel speed sensor output abnormality.

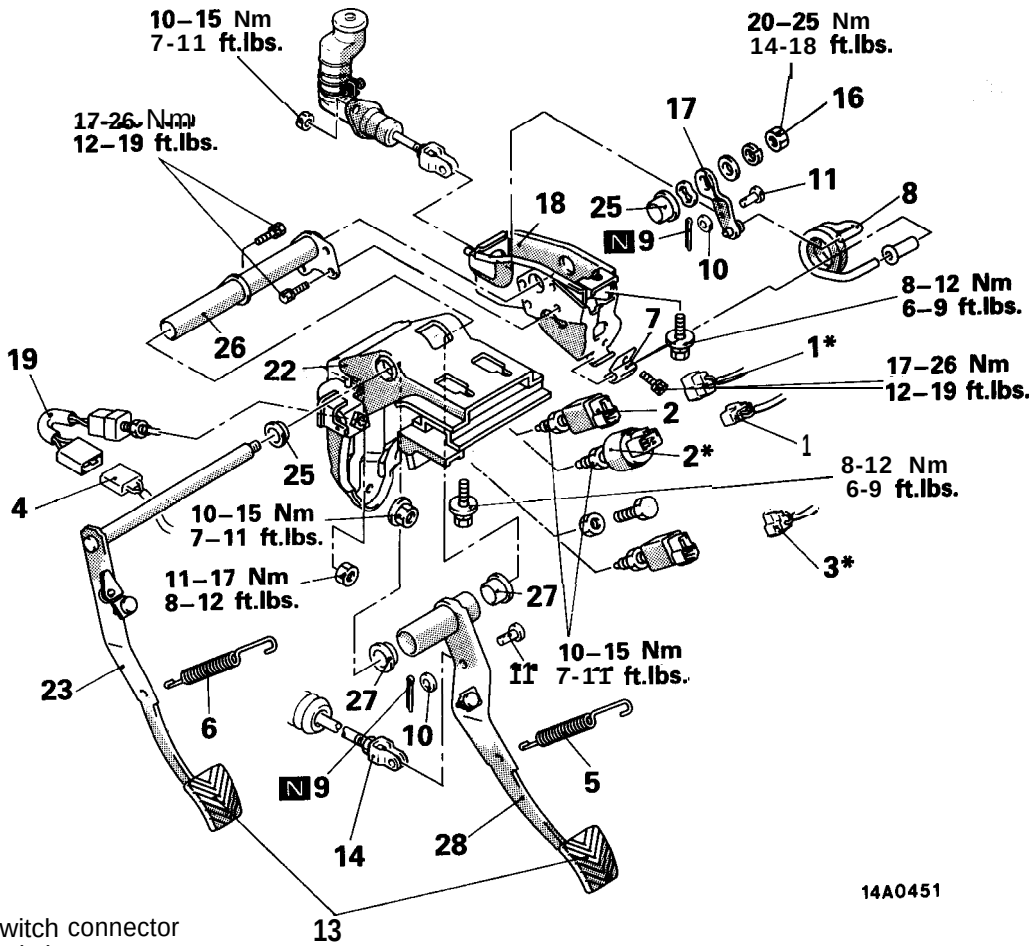
- Distortion of rotor, teeth missing
- Low frequency noise interference when sensor harness wire is broken
- Noise interference in sensor signal
- When the sensor output signal is below the standard value or when amplitude modulation is over the standard value, using an oscilloscope to measure the wave shape of the wheel speed sensor output signal is very effective.
- Loose wheel bearing
- Temporarily broken wire in sensor harness
- Sensor harness and body connector are not properly inserted.

NOTE

If contact is poor, check the sensor cable by bending and lightly stretching it.



<M/T>

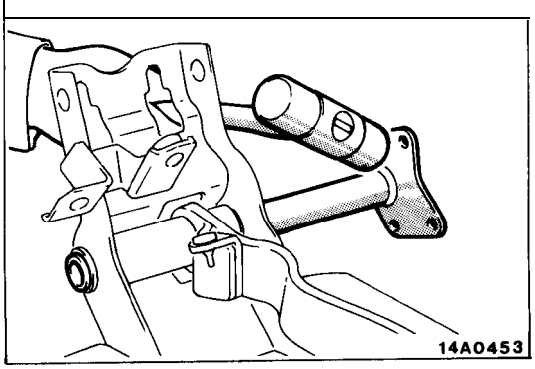


14A0451

Removal steps

1. Stop light switch connector
2. Stop light switch
3. Clutch switch connector and clutch switch
4. Inter lock switch connector
- ◆◆ 5. Return spring
- ◆◆ 6. Return spring <Non-Turbo>
7. Clip <Turbo>
- ◆◆ 8. Turn over spring <Turbo>
9. Cotter pin
- ◆◆ 10. Washer
- ◆◆ 11. Clevis pin
14. Brake booster push rod
15. Pedal and bracket assembly
16. Clutch pedal mounting nut
17. Lever assembly
18. Clutch pedal bracket
19. Inter lock switch
22. Pedal support bracket
23. Clutch pedal
- ◆◆ 25. Bushing
- ◆◆ 26. Pedal rod
- ◆◆ 27. Bushing
28. Brake pedal

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Removal".
(3) ● 4: Refer to "Service Points of Installation".
(4) N: Non-reusable parts
(5) * : Vehicles with auto-cruise control system



14A0453

SERVICE POINTS OF REMOVAL

N05GBAHa

26. REMOVAL OF PEDAL ROD

Using a plastic hammer, remove the pedal rod from the pedal support bracket.

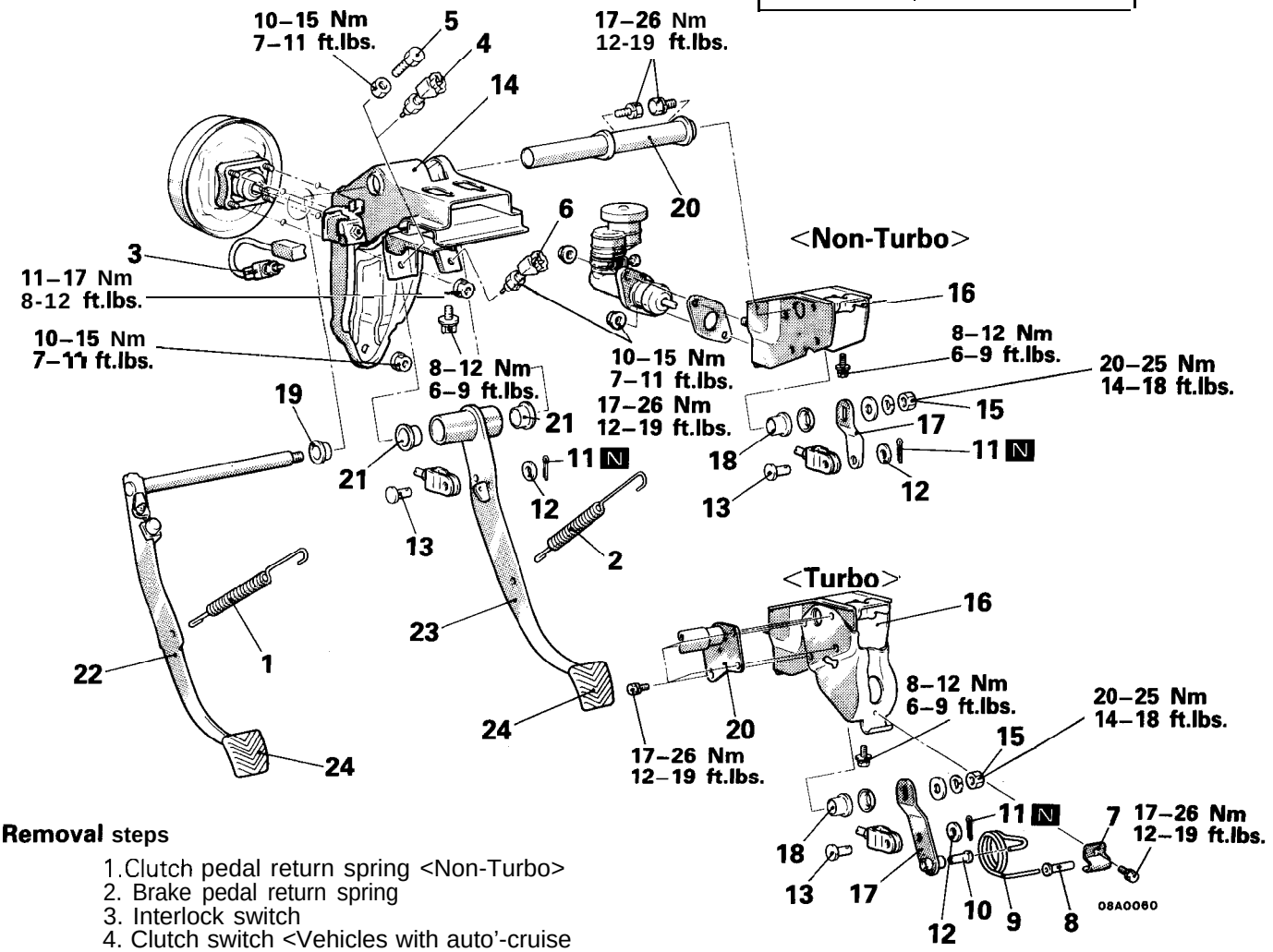
CLUTCH PEDAL

REMOVAL AND INSTALLATION

N06PA--

Pre-removal Operation
- Removal of the Lap Cooler Duct, Shower Duct (L.H.) and Knee Protector (Refer to GROUP 23–Instrument Panel.)
- Removal of the Steering Column Assembly (Refer to GROUP 19–Steering Wheel and Shaft.)
- Removal of the Relay Box (Indoor)

Post-installation Operation
- Installation of the Relay Box (Indoor)
- Installation of the Steering Column Assembly (Refer to GROUP 19–Steering Wheel and Shaft.)
- Installation of the Lap Cooler Duct, Shower Duct (L.H.) and Knee Protector (Refer to GROUP 23 Instrument Panel.)
- Adjustment of the Brake Pedal (Refer to GROUP 5–Service Adjustment Procedures.)
- Adjustment of the Clutch Pedal (Refer to P.6–5.)



Removal steps

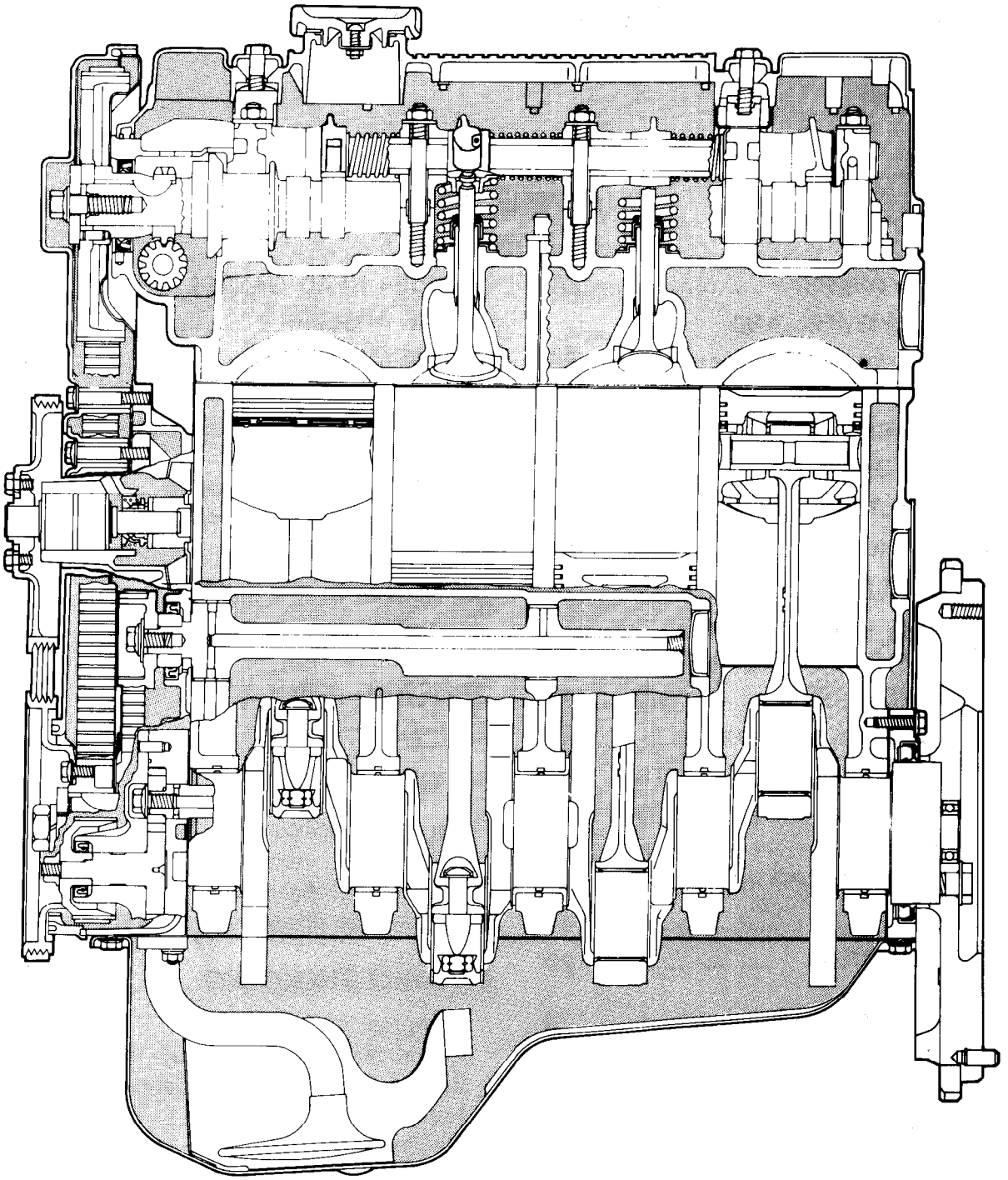
1. Clutch pedal return spring <Non-Turbo>
2. Brake pedal return spring
3. Interlock switch
4. Clutch switch <Vehicles with auto'-cruise control system>
5. Bolt <Vehicles without auto-cruise control system>
6. Stop light switch
7. Clip
- ● + 8. Bushing
9. Turn over spring
- ◆◆ 10. Bushing
11. Cotter pin
- ● + 12. Washer
- ● + 13. Clevis pin
14. Pedal support bracket assembly
15. Clutch pedal mounting nut
16. Clutch pedal bracket
17. Lever
- ● + 18. Clutch pedal bushing
- ◆◆ 19. Clutch pedal bushing
20. Pedal rod
- ◆◆ 21. Brake pedal bushings
22. Clutch pedal
23. Brake pedal
24. Pedal pad

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ● ◆◆ : Refer to "Service Points of Installation"
(3) N : Non-reusable parts

GENERAL INFORMATION

SECTIONAL VIEW <1.8L Engine>

N09BAFC



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ENGINE ASSEMBLY

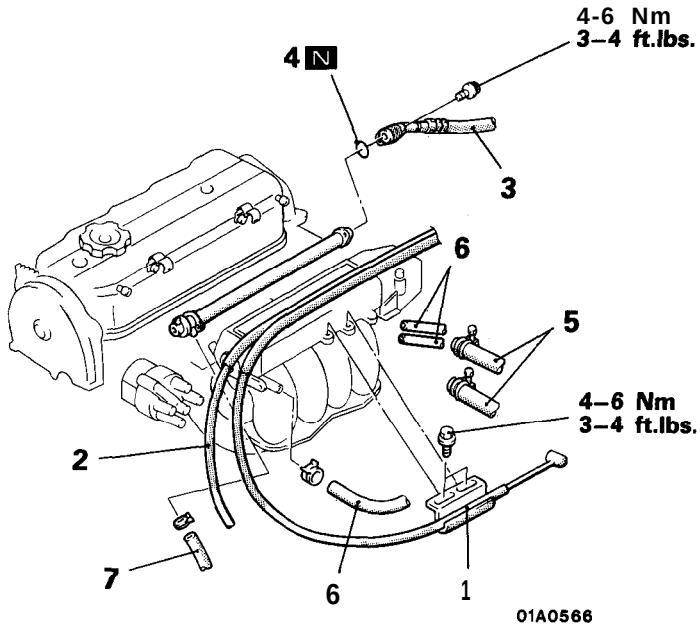
N09SA-A

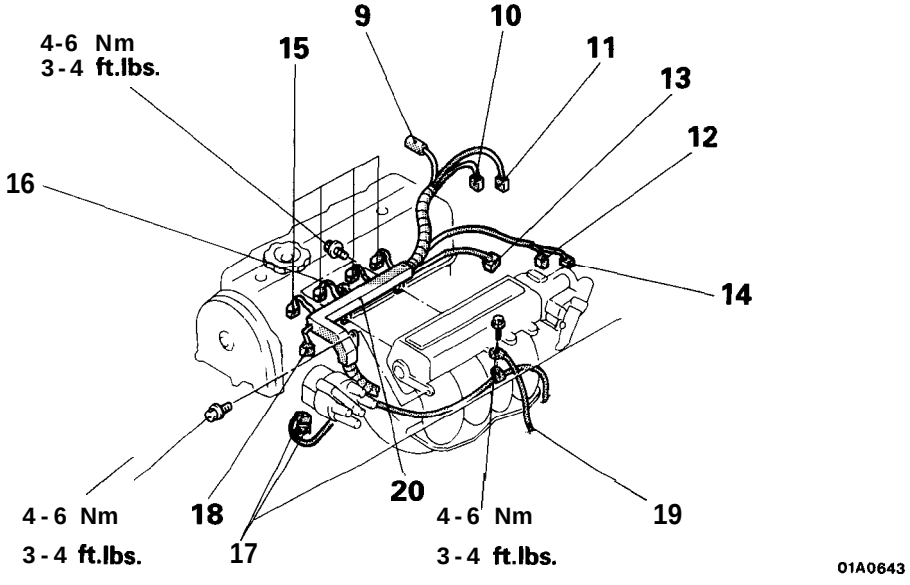
. REMOVAL AND INSTALLATION

Pre-removal Operation
- Eliminating Fuel Pressure in Fuel Line (Refer to GROUP 14–Service Adjustment Procedures.)
- Removal of Engine Hood
- Draining of Engine Coolant (Refer to GROUP O-Maintenance Service.)
- Removal of the Transaxle Assembly (Refer to GROUP 21 -Transaxle Assembly.)

*Removal of the Radiator (Refer to GROUP 7–Radiator.)

Post-installation Operation
- Installation of the Radiator (Refer to GROUP 7–Radiator.)
- Installation of the Transaxle Assembly (Refer to GROUP 21 -Transaxle Assembly.)
- Refilling of Engine Coolant (Refer to GROUP O-Maintenance Service.)
- Installation of Engine Hood

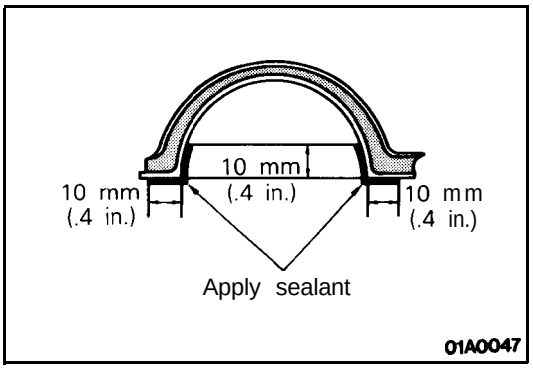




Removal steps

- ● + 1. Connection for accelerator cable or throttle cable
  2. Connection for accelerator cable (Auto-cruise control)
  3. Connection for fuel high pressure hose
  4. O-ring
  5. Connection for heater hoses
  6. Connection for vacuum hoses
  7. Connection for fuel return hose
  8. Connection for brake booster vacuum hose
  9. Connection for oxygen sensor
  10. Connection for engine coolant temperature gauge unit
  11. Connection for engine coolant temperature sensor
  12. Connection for ISC
  13. Connection for TPS
  14. Connection for MPS
  15. Connection for fuel injectors
  16. Connection for EGR temperature sensor
  17. Connection for distributor
  18. Connection for CRC filter
  19. Connection for ground cable
  20. Control wiring harness

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ● +: Refer to "Service Points of Installation".
(3) N: Non-reusable parts



7. INSTALLATION OF ROCKER COVER

Apply a coating of the specified sealant where shown in the figure, and then install the rocker cover to the cylinder head assembly.

Specified sealant: MOPAR Part **No.4318034** or equivalent

2. INSTALLATION AND ADJUSTMENT OF TIMING BELT

Refer to P.9-104.

1. ADJUSTMENT OF ACCELERATOR CABLE

Refer to GROUP 14–Service adjustment procedures.

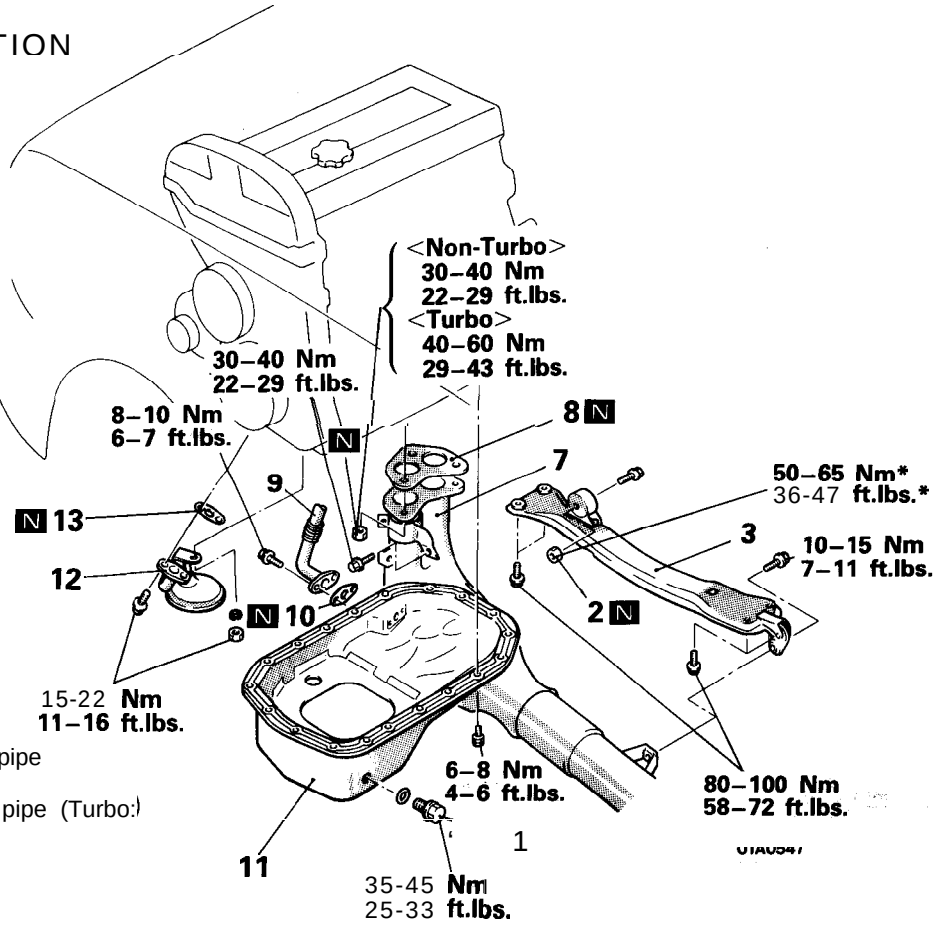
OIL PAN AND OIL SCREEN

N09HA-B

REMOVAL AND INSTALLATION

Pre-removal Operation
- Draining of Engine Oil (Refer to GROUP 0–Maintenance Service.)

Post-installation Operation
- Refilling of Engine Oil (Refer to GROUP 0–Maintenance Service.)



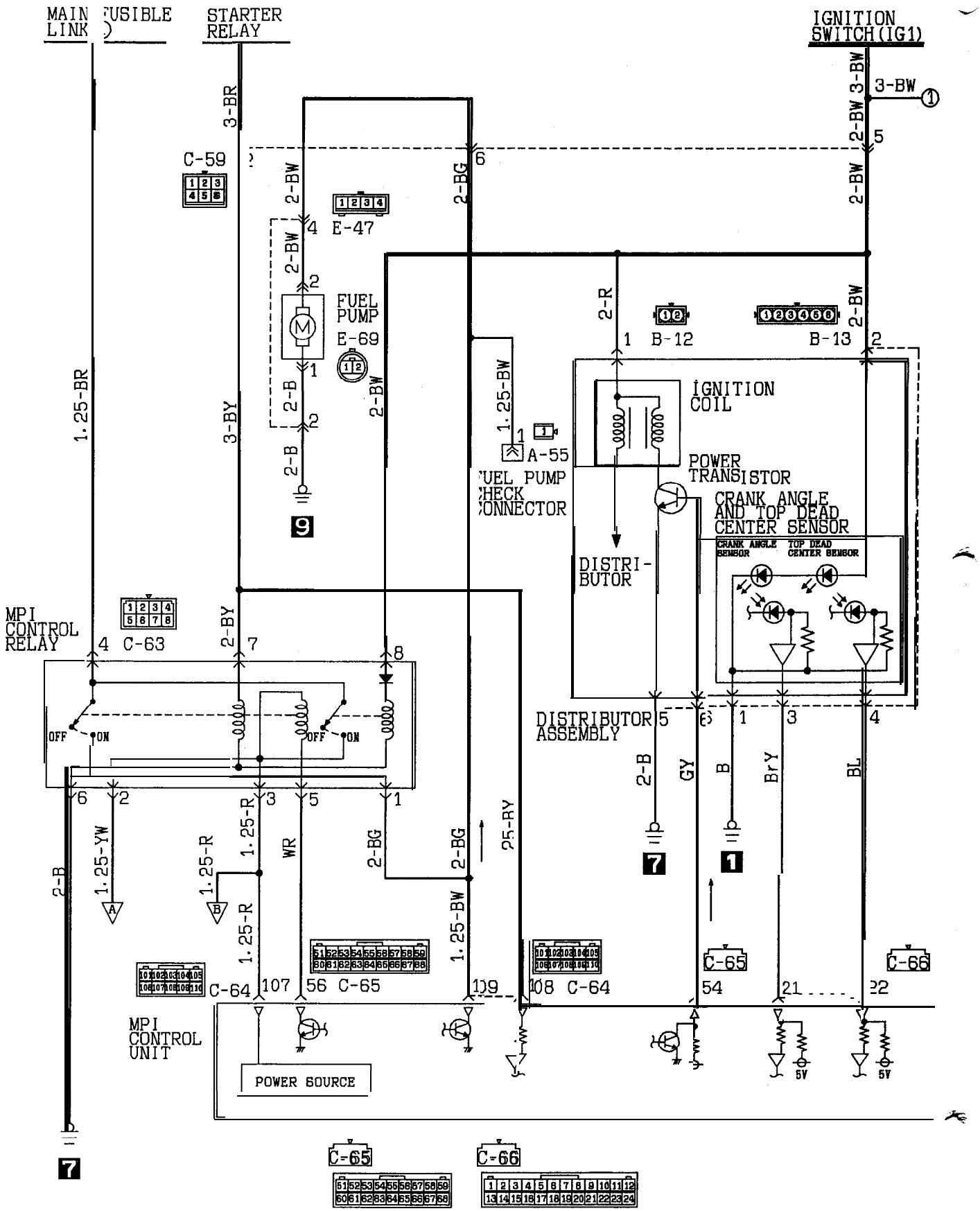
Removal steps

1. Drain plug
2. Self locking nut
3. Centermember
7. Connection for exhaust pipe
8. Gasket
9. Connection for oil return pipe (Turbo)
10. Gasket (Turbo)
- ●* *11. Oil pan
12. Oil screen
13. Gasket

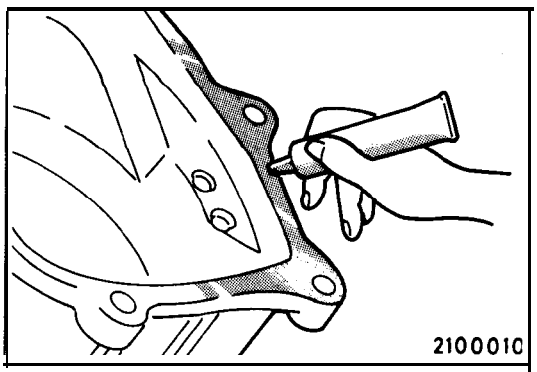
NOTE
(1) Reverse the removal procedures to reinstall.
(2) ● e : Refer to "Service Points of Removal".
(3) ● + : Refer to "Service Points of Installation".
(4) N : Non-reusable parts
(5) For tightening locations indicated by the * symbol, first tighten temporarily, and then make the final tightening with the entire weight of the engine applied to the vehicle body.

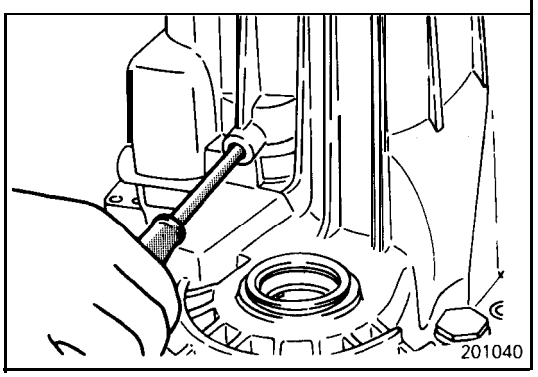
MPI CIRCUIT

1.8L Engine <M/T>

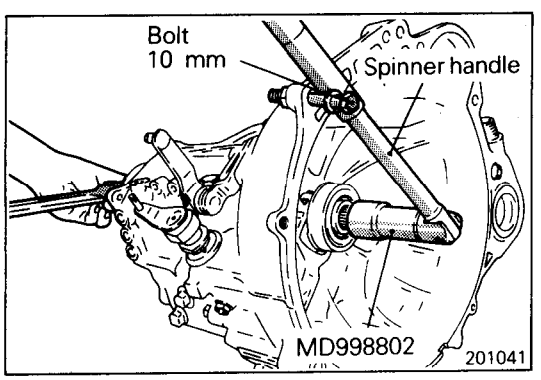


KX35-AC-U0514-NC



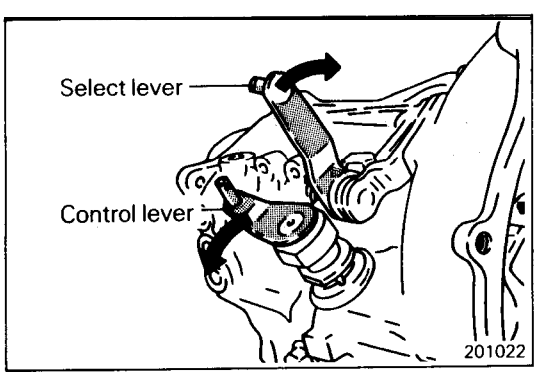


(5) Insert a Phillips screwdriver [8 mm (.32 in.) shaft diameter] into the bolt hole in the case, as shown in the figure, and use it to align the threaded hole of the reverse idler gear shaft with the bolt hole in the transaxle case.
(6) Install the reverse idler gear shaft bolt and tighten the bolt by fingers.
(7) Tighten the all transaxle tightening bolts to specified torque.
(8) Tighten the reverse idle gear shaft bolt to specified torque.

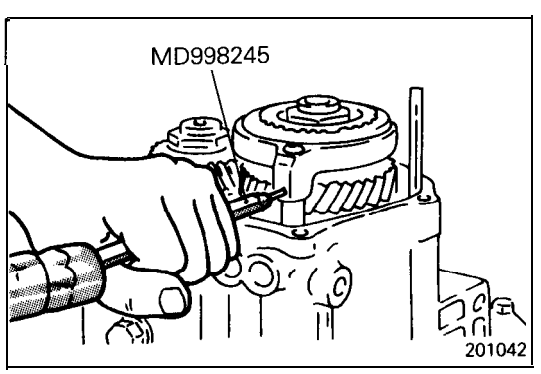


15./ 16. INSTALLATION OF LOCK NUTS

(1) Install the special tool to the splined end of input shaft.
(2) Screw a bolt (10 mm) into the hole on the periphery of clutch housing and attach a spinner handle to the special tool.



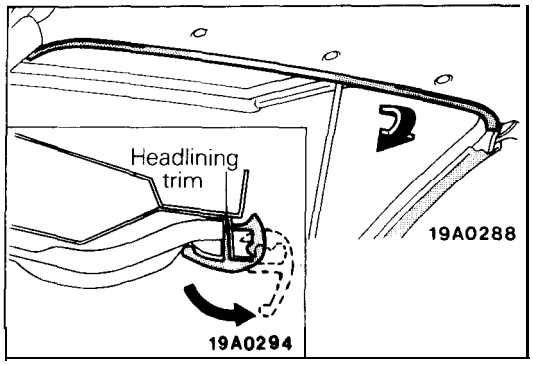
(3) Shift the transmission in reverse using control lever and select lever.
(4) Tighten the lock nut to specified torque, while using the bolt attached in the above step as a spinner handle stopper.
(5) Loosen the lock nuts.
(6) Retighten the lock nuts to the specified torque.
(7) Stake the lock nut.



14. INSTALLATION OF SPRING PIN

(1) Install the spring pin using the special tool or a pin punch.

Caution
Do not reuse the spring pins.



SERVICE POINTS OF REMOVAL

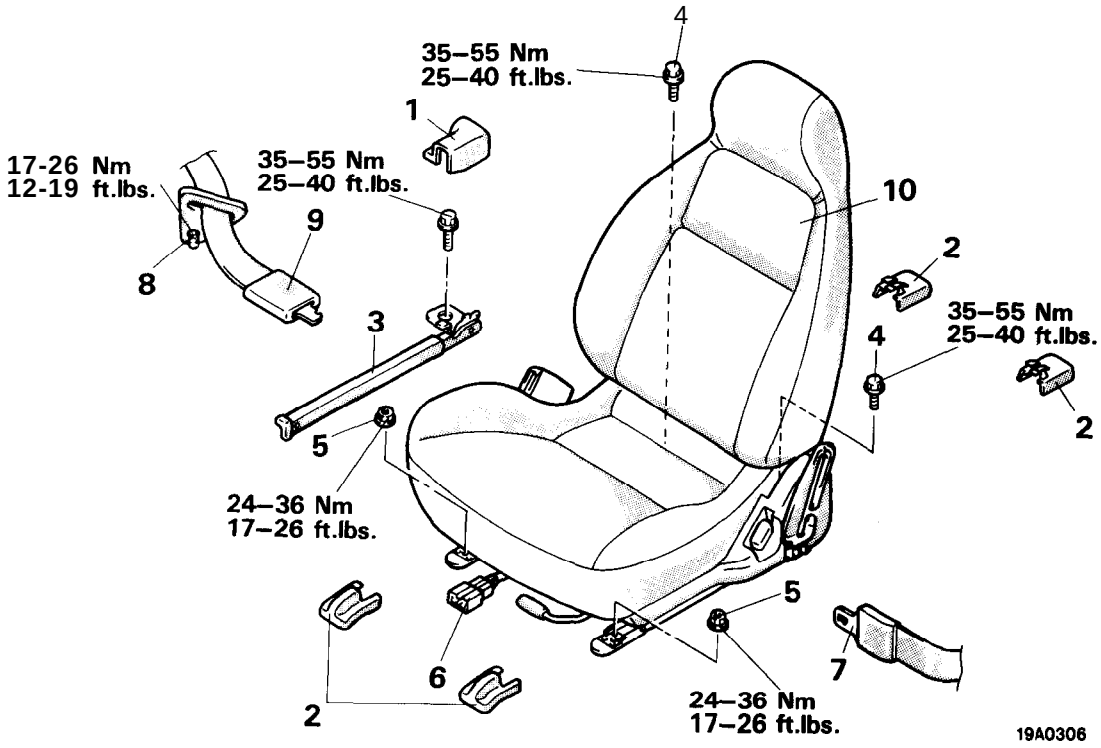
5. REMOVAL OF HEADLINING TRIM

Remove the headlining trim like turning it outward.

FRONT SEAT

N23UEAP

REMOVAL AND INSTALLATION



Removal steps

- + 1. Slider rail anchor cover
- + 2. Seat anchor covers
- 3. Slider rail
- * 4. Seat mounting bolts
- * 5. Seat mounting nuts
- 6. Seat belt switch connector (L.H. only)
- 7. Lap belt <Vehicles for U.S.>
- 8. Guide ring <Vehicles for U.S.>
- 9. Shoulder belt <Vehicles for U.S.>
- 10. Front seat assembly

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Installation".