Service Bulletin

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Category	Applicable Model/s	Subject	Bulletin No.	054/89
7	1987-1989 626/MX-6	EC-AT SERVICE & REPAIR	Issued	4/5/89
			Revised	8/18/89

DESCRIPTION

This bulletin contains information compiled from the EC-AT Service & Repair Video, and from previously released Service Bulletins listed below. Please delete these bulletins, and utilize the Video (P/N 9999-95-068F-89), the "Quick Reference Guides" (Technicians - P/N 9999-95-067F-89, Service Advisors - P/N 9999-95-066F-89), and this Service Bulletin for EC-AT complaints.

Category 7, no.s 038/87, 039/87, 041/88, 043/88, 044/88, 045/88, 046/88 & 049/88.*

NOTE:*
Prior to diagnosis, check if the vehicle was repaired under SSP05 (1988 626/MX-6) or SSP07 (1987 626 & 1988 323).

Repair procedures are suggested for the following EC-AT complaints: (Warranty Information for diagnosis and repairs are listed on page 8 of 8 of this bulletin.)

Slipping	Engine Flare	Vibration
Shift Shock	Surging	Hunting
Stall	Failure	Erratic Converter Lock-Up

The following possible causes are addressed in this bulletin:

1. ATF Condition or Improper Level
2. Internal Failure
3. Valve Body Modifications
4. Electrical System Malfunction
5. Adjustments needed

REPAIR PROCEDURES

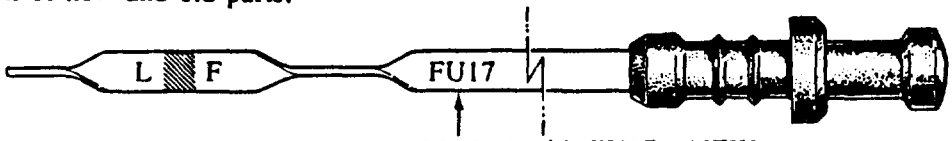
Follow these procedures in order for any noted complaint.

1. ATF Condition and Level (slip, flare, hunting, chatter, vibration, stall, shift shock)

   A. If repairing a 1987 vehicle, insure that the proper fluid level gauge is installed. (P/N FU17 19 880).

   NOTE:
   Do not overfill when using FU17 gauge.

Distinction of new and old parts.



Marked with FU17 - NEW
No marking - OLD

016001

The revised sections are indicated by an asterisk. Please replace the original bulletin with this revised bulletin.

IMPORTANT Service and Parts Managers should read this bulletin carefully, sign and convey all information to those concerned.

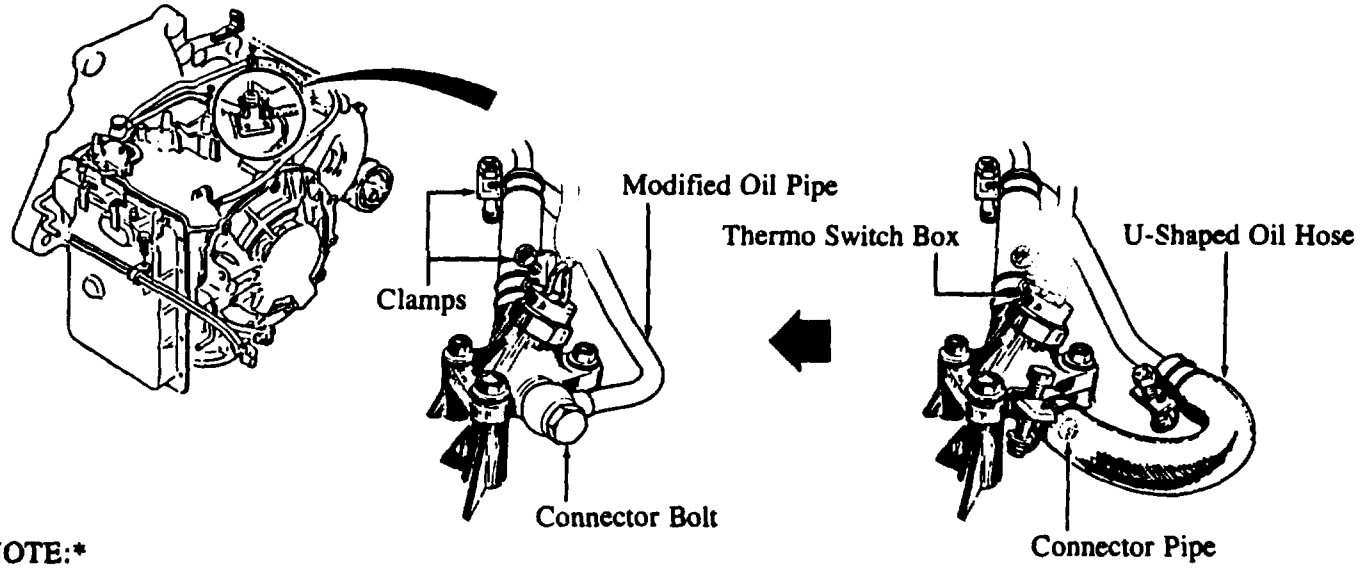
Signature _____ Service Manager

Signature _____ Parts Manager

B. Confirm the proper ATF level.

Warm up the engine for about 5 – 10 minutes (ATF temperature rises to 150°F) and then measure the ATF level. At 150°F, the ATF level should be at the "F" level mark with the engine running in "P" range.

C. If the fluid level is low, check for leakage, especially near the thermo-switch box. Make sure the modified oil pipe is installed on 1988 models. If leakage is found, refer to the illustration below for repair procedures.



NOTE:*

There have been 2 modifications as shown below:

MODIFICATION A

The "U"-shaped oil hose and connector pipe at the thermo switch box have been replaced with an oil line as shown below.

If you observe any leakage from this part, replace the oil pipe with the modified one according to the repair procedure in this bulletin.

MODIFICATION B

To provide more clamping force, the length of the bolts at the hose clamps on the cooler line has been increased. If you encounter a complaint of oil leakage at the oil hose, install a new hose with modified clamps.

VIN OF PRODUCTION CHANGE

Modification A.

1988 626/MX-6 vehicles manufactured in Japan
JM1GD★★★★ K1703425 July 11, 1988 *

1988 MX-6 vehicles manufactured in the U.S.A.
1YVGD★★★★ K5200001 August 1, 1988 *

Modification B.

1988 626/MX-6 vehicles manufactured in Japan
JM1GD★★★★ J1537054 October 6, 1987

1988 MX-6 vehicles manufactured in the U.S.A.
1YVGD★★★★ J5104074 December 18, 1987

Number: 054/89	Date Issued: 4/5/89	Date Revised: 8/18/89

PARTS INFORMATION

PART NUMBER		DESCRIPTION	INTERCHANGEABILITY
NEW	OLD		
FU31 19 9A0E	FU31 19 9A0D	Oil Pipe	NEW → OLD *
9938 11 000	---	Connector Bolt	---
9956 21 400	---	Packing (Washer)	---
FU32 19 9A6	---	Thermo Switch Box	---
9956 21 600	---	Packing (Washer)	---
9928 21 930H	9928 21 900	Hose Clamp	NEW → OLD *

NOTE: *
IT IS NOT NECESSARY TO REPLACE THE THERMO SWITCH BOX FOR THIS OPERATION UNLESS THE ORIGINAL IS DAMAGED.

2. Internal Failure (slip, flare, hunting, chatter, vibration, shift shock)

A. Check the condition of the ATF. If it is burnt or discolored, inspect fluid in oil pan. Look for material in ATF.

B. Perform the following:
-performance and stall tests
-repair or replace with rebuild as needed

3. Valve Body Modifications (shudder, surging, slip, flare, chatter, shift shock)

For 1988 626/MX-6, the following four modifications (A, B, C, D) to the valve body and the inner parts have been incorporated in order to correct the slippage and/or chatter when shifting from D1−D2 and to reduce the shift shock when shifting from D1−D2 or D2−D3.

A. Insure that the proper modifications have been made as specified.

• Beginning No. of Transaxle Unit Applicable to each Modification

Location of I.D. Tag

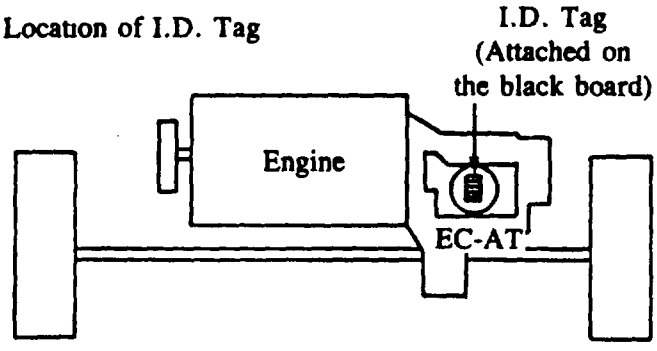
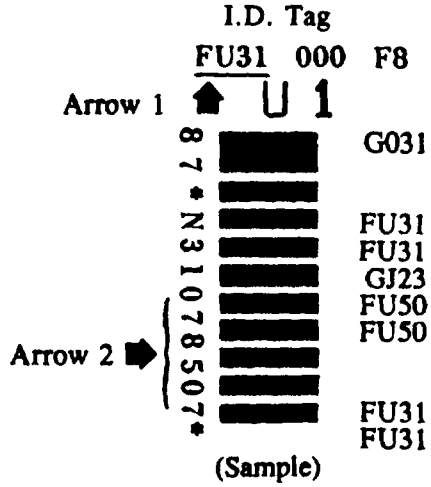


Figure looking from the front of vehicle



How to identify the unit No:
(1) Find arrow 1 : FU31
(2) Find arrow 2 : 078507
(3) This unit No. is FU31-078507

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PARTS INFORMATION

*	PART NO.	DESCRIPTION
	FU06 21 100V	Valve Body (for '87)
	FU3H 21 100A	Valve Body (for '88 T/C)
	FU4G 21 100A	Valve Body (for '88 non-T/C)
	FUY1 21 227	Accumulator Spring (for '88 T/C)

NOTE:*
1988 T/C Models - repair should include accumulator spring installation to eliminate shift shock.

4. Electrical (all problems)

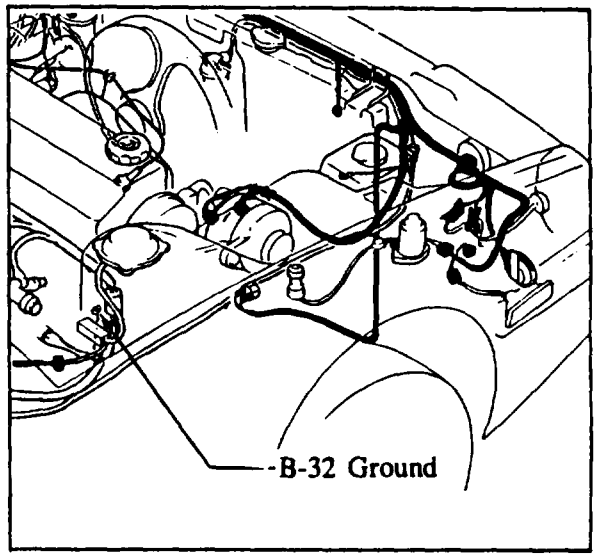
If vehicle is a 1988 or 1989, use EC-AT tester as per Workshop Manual.

If vehicle is a 1987 model, check the electrical system harness as follows:

A. Check if the EGI harness is properly grounded at the B32 connector.
If the terminal is rusted or the bolt is loose, repair it and apply a suitable anti-rust agent.
Then, go to step B.

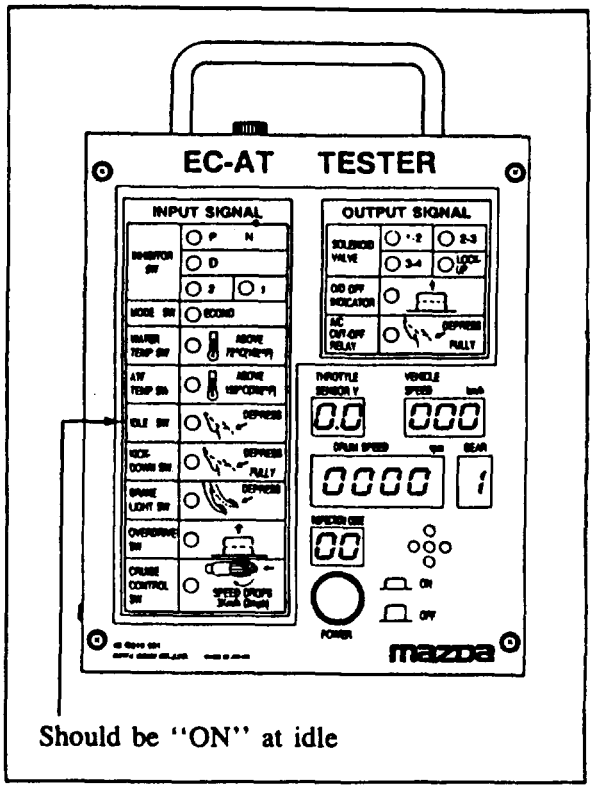
B. Connect an EC-AT tester as per the 1987 626 Workshop Manual. (See page 7B-6)

C. Turn the ignition switch "ON".



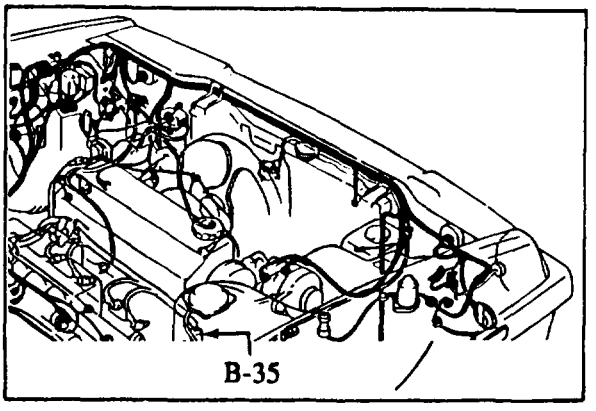
D. Check if the throttle sensor voltage is within the following specification and is stabilized (not fluctuating).
Specification:
Throttle Closed: 0.4 - 0.6 Volts
Throttle Fully Opened: 4.0 Volts Approximately

If the reading is out of the specified range, adjust the throttle sensor setting as per the workshop manual (page 4A-17).
If the throttle sensor voltage fluctuates, go to step F.

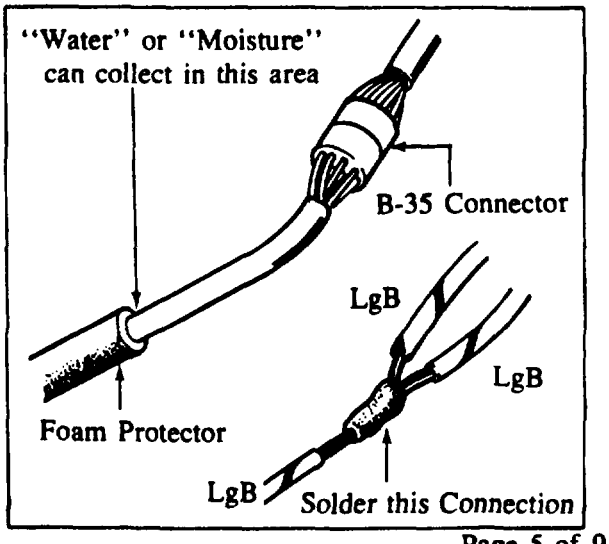


E. Start the engine.
If any inspection code is shown on the EC-AT Tester, perform the necessary repair as per the workshop manual.
Check the idle switch adjustment.
Idle switch input indicator should be on at idle and should be off when the accelerator pedal is depressed.
If not, check or adjust the idle switch as per the workshop manual.
Check the throttle sensor voltage.
If the throttle sensor voltage fluctuates, go to step F.

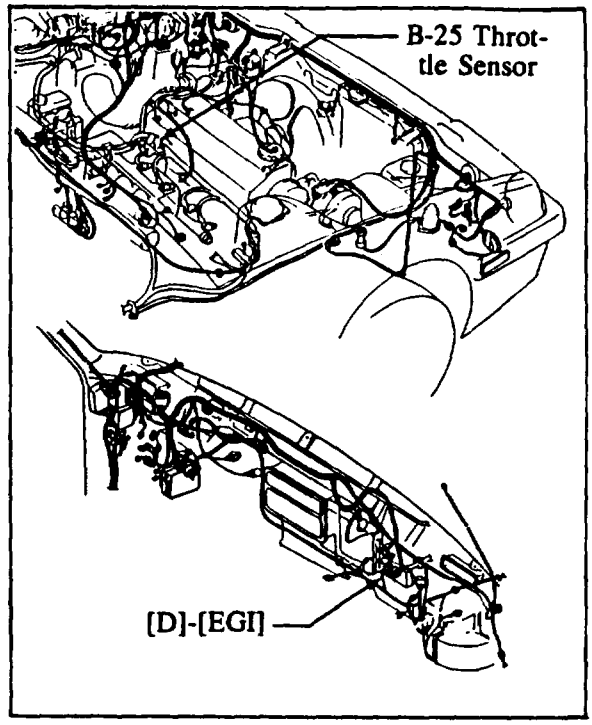
F. Check the EGI and injection harness and their connector.
Check if the LgB, GO, LgW, LgR wires are properly connected at B-35 connector.
If the terminal is rusted or the harness is cut, clean up the terminal or repair the harness, then apply a suitable anti-rust agent.



Inspect the EGI harness for water or a poor connection under the foam protector area near the B-35 connector.
Check the point where the throttle sensor wires LgB, LgW and GO segments are joined by a crimp connection.
If it is rusted or moisture is found, solder these connectors and protect them with insulated tape. Make sure the harness is not touching the steering pipe.
If the problem can not be solved after performing the above mentioned inspection, go to step G.



G. Check the B-25 and the X-09 connectors to determine if the LgB, GO, LgW and LgR wires are properly connected.
NOTE: The connecting point of the wires may be different depending on the production period of the vehicle.



5. Adjustments (all problems)

A. 2-4 Brake Band Adjustment

Remove the oil pan and gasket located on the underside of the transmission.

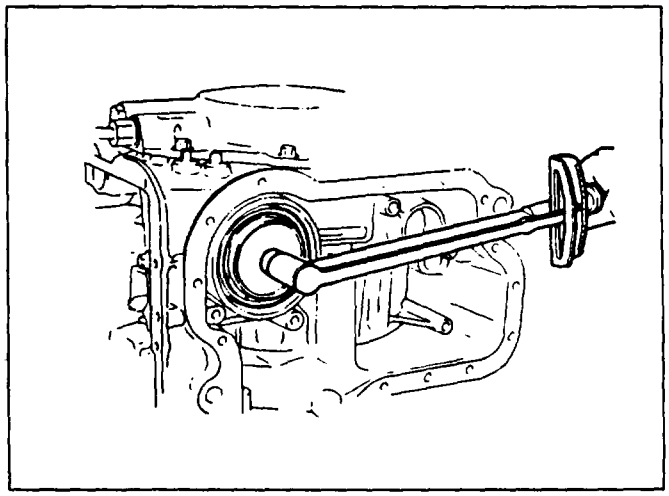
Loosen the lock nut and tighten the piston stem exactly at the specified torque.

Tightening Torque:
10 N-m (1.1 m-kg, 98 in-lbs)*

Loosen the piston stem exactly 2 turns.

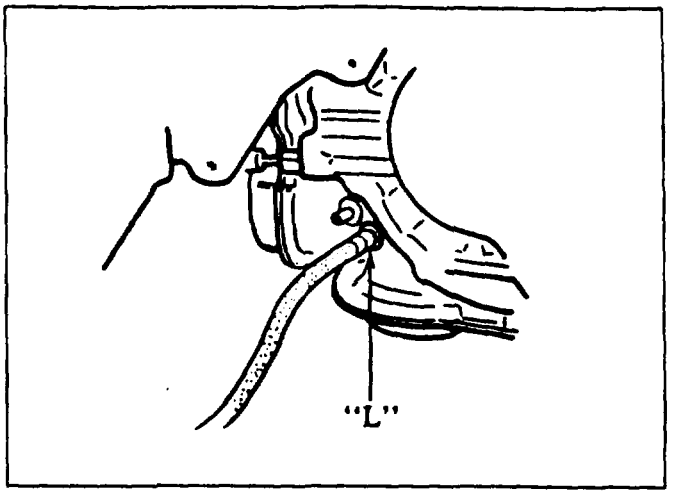
Tighten the locknut.

Tightening Torque:*
31 N-m (18–29 ft-lbs)



NOTE:*
Quick Reference material reads in-lbs instead of ft-lbs in error.

B. Throttle Cable (Line Pressure) Adjustment



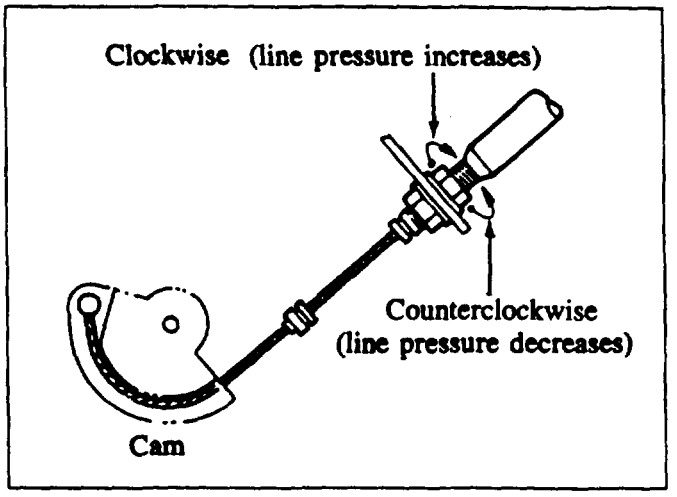
Turn off the engine.

Remove the splash shield next to the left front tire.

Remove the square head plug "L" and install the oil pressure gauge set.

Shift into "P" range and start the engine.

Adjust the idle speed to:
Non-Turbo: 750–800 rpm
Turbo: 725–775 rpm



Adjust locknuts:
When the locknuts are moved, line pressure is increased or decreased as shown. Adjust the cable locknuts to correct position using the following procedure.

Step 1

Initially install the locknuts fully away from the throttle cam. (Loosen the cable all the way.)

Step 2

Adjust the locknuts in a clockwise direction as viewed from the front of the vehicle until the line pressure begins to increase above the specification shown.

Step 3

Adjust the locknuts in a counterclockwise direction until the line pressure decreases to the specification exactly. Tighten the locknuts.

Standard:*
4.0–4.6 kg/cm²
(Free play of wire cable should be 0 mm.)

Anti-Flare Up:*
4.6 kg/cm² (66 psi or 450 Kpa)

Anti-Shift Shock:*
4.0 kg/cm²(57 psi or 390 Kpa)

NOTE:*
If shift shock still occurs, it may be necessary to fine tune line pressure.

NOTE:
Transmission in "P" range.

Turn off the engine.

Apply "Teflon" tape to threads and reinstall the square head plug.

WARRANTY INFORMATION

Performance Test

Operation Number:	K0001X-D-X
Labor Hours:	0.8 Hr.

Diagnosis

Operation Number:	K0002X-D-X
Labor Hours:	1.1 Hr.

1. ATF Condition or Improper Level

   A. Level Indicator (Warranty covered under diagnosis)

   B. Leakage from Cooler Line

Customer Comment Code:	2J
Damage Code:	38
Part Number of Main Cause:	FU31 19 9A0E
Operation No:	19930X-R-1
Labor Hours:	0.4 Hr.

2. Internal Failure

   Warranty Information for Performance Test and Diagnosis

3. Valve Body Modifications

   A. Valve Body Assembly Replacement

Customer Comment Code:	2E
Damage Code:	31
Part Number of Main Cause:	FU31 21 100N or FU32 21 100R
Operation No:	19750X-R-X
Labor Hours:	1.8 Hr.

   B. Valve Body Assembly Overhaul

Customer Comment Code:	2E
Damage Code:	31
Part Number of Main Cause:	FU31 21 085
Operation No:	19750X-H-X
Labor Hours:	2.4 Hr.

4. Electrical System Malfunction

Customer Comment Code:	99
Damage Code:	99
Part Number of Main Cause:	FU16 19 090 (EC-AT Assy.)
Operation No:	XX0277RX
Labor Hours:	0.4 Hr.

NOTE:
Labor Hours include the following items:
- Throttle sensor and idle switch inspection and adjustment
- EGI harness and dash harness inspection and repair

5. Adjustments Needed

Customer Comment Code:	99
Damage Code:	99
Part Number of Main Cause:	FU17 19 880
Operation No:	XX0268RX
Labor Hours:	1.5 Hr.

NOTE:
Includes 2−4 brake band adjustment, ATF level check, and throttle cable adjustment.