

GROUP 36

PARKING BRAKES

CONTENTS

SERVICE SPECIFICATION	36-2	PARKING BRAKE LEVER STROKE CHECK AND ADJUSTMENT	36-5
PARKING BRAKE DIAGNOSIS	36-2	PARKING BRAKE SWITCH CHECK.	36-6
INTRODUCTION.	36-2	PARKING BRAKE LEVER	36-7
TROUBLESHOOTING STRATEGY	36-2	REMOVAL AND INSTALLATION	36-7
SYMPTOM CHART.	36-2	PARKING BRAKE CABLE.	36-9
SYMPTOM PROCEDURES	36-2	REMOVAL AND INSTALLATION	36-9
ON-VEHICLE SERVICE.	36-5		

SERVICE SPECIFICATION

M1361000301374

Item	Standard value
Parking brake lever stroke {Control force: approximately 200 N (45.0 lb)}	7 – 9 notches

PARKING BRAKE DIAGNOSIS

INTRODUCTION

If the parking brake is faulty, parking brake effort will become insufficient. The cause may be a malfunction of parking brake parts or the parking brake pedal being out of adjustment.

M1361003700367

TROUBLESHOOTING STRATEGY

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a parking brakes fault.

1. Gather Information from the customer.

2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

M1361003800375

SYMPTOM CHART

M1361004100517

SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
Brake drag	–	Refer to GROUP 35A, Basic Brake System Diagnosis – Symptom Chart P.35A-3 .
Brake warning light stays ON with the parking brake lever released.	–	Refer to GROUP 35C, ASC Diagnosis – Symptom Chart P.35C-93 .
Insufficient parking brake function	1	P.36-2
When the parking brake lever is pulled, the brake warning light does not illuminate.	2	P.36-3

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Insufficient Parking Brake Function

DIAGNOSIS

(Refer to [P.36-5](#)). Then go to Step 4.

STEP 1. Check the excessive parking brake lever stroke.

Refer to [P.36-5](#).

Q: Is the parking brake lever stroke adjusted properly?

YES : Go to Step 2.

NO : Adjust the parking brake lever stroke or check the parking brake cable routing

STEP 2. Check the parking brake cable for sticking.

Q: Is the parking brake cable stuck?

YES : Replace the cable (Refer to [P.36-9](#)). Then go to Step 4.

NO : Go to Step 3.

STEP 3. Check for oil, water, etc., on the lining contact surfaces.

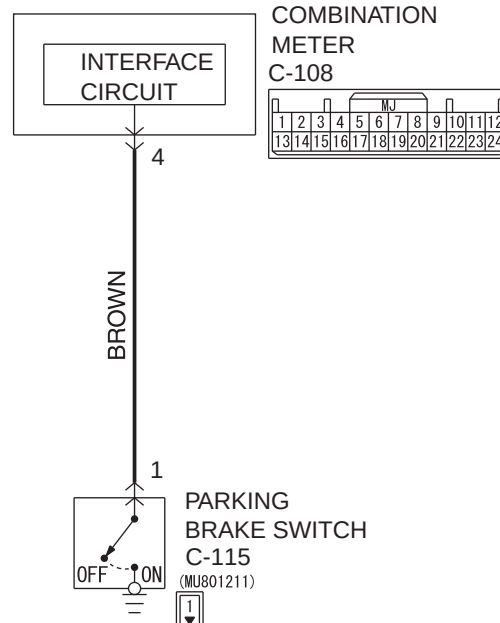
- Q: Is oil, water, etc., on the lining contact surface?**
YES : Replace the part and determine and repair source/cause of foreign material. Then go to Step 4.
NO : Carry out the parking brake lining seating procedure (Refer to [P.36-5](#)) and then go to Step 4.

STEP 4. Retest the system.

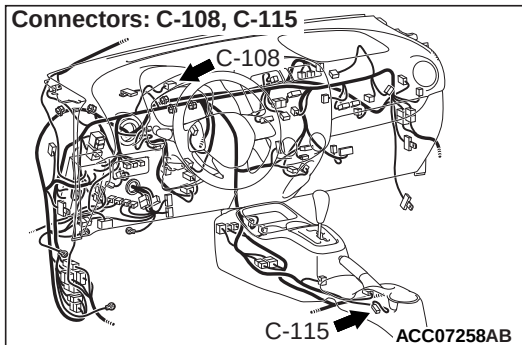
- Q: Is the malfunction eliminated?**
YES : The procedure is complete.
NO : Recheck from Step 1.

INSPECTION PROCEDURE 2: When the Parking Brake Lever is Pulled, the Brake Warning Light does not illuminate.

Brake Warning Light Circuit



ACC07256AB



TECHNICAL DESCRIPTION (COMMENT)

The parking brake switch turns on and off by operating the parking brake lever, and the brake warning light illuminates and goes out, indicating the operating status of parking brake to a driver.

TROUBLESHOOTING HINTS (THE MOST LIKELY CAUSES FOR THIS CASE:)

- Damaged wiring harness or connector
- Parking brake switch defective
- Combination meter defective

DIAGNOSIS

STEP 1. Using scan tool (M.U.T.-III), check combination meter special function.**Special function (test)**

- Item No.6: Indicator (AUTO)

Q: Is the check result normal?**YES :** Go to Step 2.**NO :** Replace the combination meter (Refer to GROUP 54A, Combination Meter Assembly [P.54A-61](#)).

STEP 2. Check the parking brake switch.Refer to [P.36-6](#).**Q: Is the parking brake switch normal?****YES :** Go to Step 3.**NO :** Replace the parking brake switch (Refer to [P.36-7](#)). Then go to Step 6.

STEP 3. Connector check: C-115 parking brake switch connector and C-108 combination meter connector**Q: Is the check result normal?****YES :** Go to Step 4.**NO :** Repair or replace the faulty connector (Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#)). Then go to Step 6.

STEP 4. Check the wiring harness for an open circuit between C-115 parking brake switch connector terminal No.1 and C-108 combination meter connector terminal No.4.

- (1) Disconnect C-115 parking brake switch connector from C-108 combination meter connector, and measure at the wiring harness side connector.
- (2) Measure the resistance between C-115 parking brake switch connector terminal No.1 and C-108 combination meter connector terminal No.4.

OK: Continuity exists (2 Ω or less)**Q: Is the check result normal?****YES :** Go to Step 5.**NO :** A open circuit may be present in the wiring harness between C-115 parking brake switch connector terminal No.1 and C-108 combination meter connector terminal No.4. Repair the wiring harness if necessary, and then go to Step 6.

STEP 5. Retest the system.

Q: Does the brake warning light illuminate when the parking brake lever is pull?

YES : It can be assumed that this malfunction is intermittent (Refer to GROUP 00, How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction [P.00-13](#)).

NO : Replace the combination meter (Refer to GROUP 54A, Combination Meter Assembly [P.54A-61](#)).

STEP 6. Retest the system.

Q: Does the brake warning light illuminate when the parking brake lever is pulled?

YES : The procedure is complete.

NO : Return to Step 1.

ON-VEHICLE SERVICE

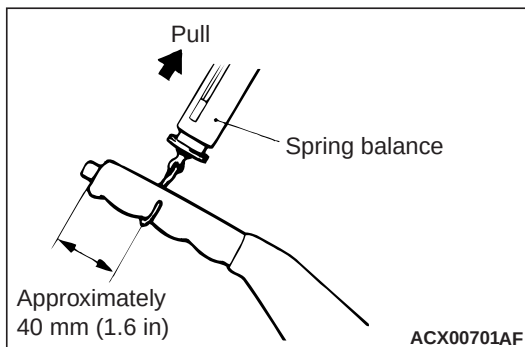
PARKING BRAKE LEVER STROKE CHECK AND ADJUSTMENT

M1361000901213

STROKE CHECK

Attach the spring balance to the center of the parking brake lever grip. Then, check that the stroke is within the standard value when the parking brake lever is pulled to the vertical direction of the lever with a force of approximately 200 N (45.0 lb).

Standard value: 7 – 9 notches

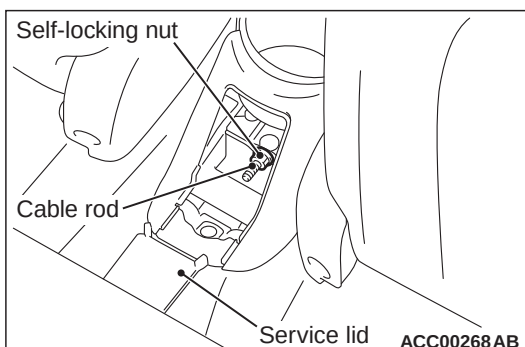


STROKE ADJUSTMENT

If the parking brake lever stroke is out of the standard range, adjust as described below:

1. Remove service lid in floor console assembly as shown in the figure.
2. Loosen the self-locking nut to the end of the cable rod in order to allow slack in the cables.
3. Turn the ignition switch to "ON" position, and start the engine.
4. Repeatedly depress the brake pedal until the pedal stroke no longer changes with the engine running.

NOTE: If the pedal stroke stops changing, the automatic-adjustment mechanism is functioning normally, and the clearance between the shoe and drum is correct



5. Turn the ignition switch to "OFF" position, and stop the engine.

⚠ CAUTION

Be careful that the parking brake lever notch number should be within the standard range. If the notch number is too low, rear brake dragging can be caused.

6. Adjust the parking brake lever stroke to the standard value by turning the self-locking nut. After adjustment, check that there is no free play between the self-locking nut and the parking brake lever.
7. After the parking brake lever stroke is adjusted, raise the rear of the vehicle. Release the parking brake, and turn the rear wheels to confirm that the rear brakes are not dragging.

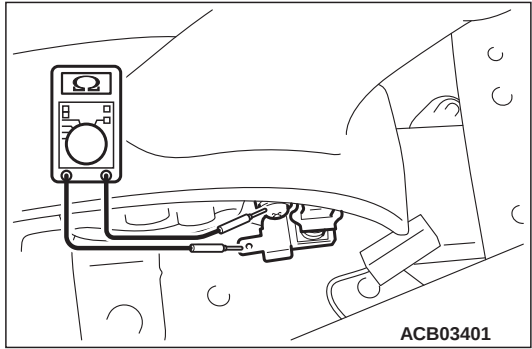
PARKING BRAKE SWITCH CHECK

M1361003301373

⚠ CAUTION

Do not apply grease or lubricant to the switch and the switch installation section to avoid malfunction of the switch. In addition, do not use gloves which have grease on them.

1. Remove the floor console assembly. (Refer to GROUP 52A, Floor Console Assembly [P.52A-7](#)).
2. Check for continuity between the parking brake switch terminal and the switch mounting bolt.



When parking brake lever is pulled	Continuity (Less than 2 Ω)
When parking brake lever is released	Open circuit

PARKING BRAKE LEVER

REMOVAL AND INSTALLATION

M1361001301184

CAUTION

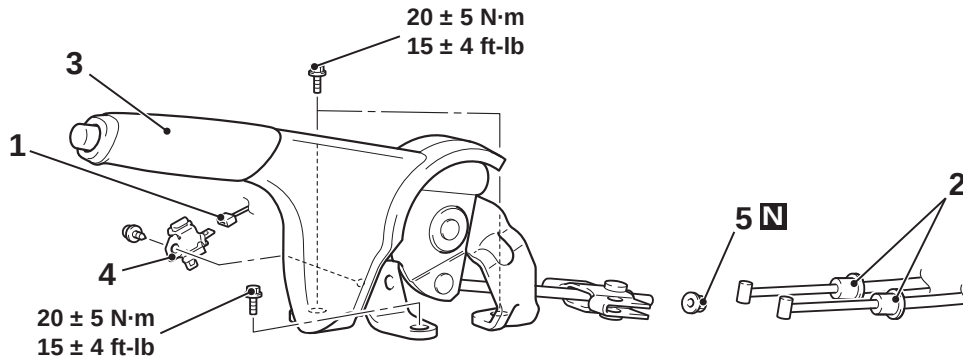
Do not apply grease or lubricant to the switch and the switch installation section to avoid malfunction of the switch. In addition, do not use gloves which have grease on them.

Pre-removal Operation

Floor Console Assembly Removal (Refer to GROUP 52A, Floor Console [P.52A-7](#)).

Post-installation Operation

- Parking Brake Lever Stroke Adjustment (Refer to [P.36-5](#)).
- Floor Console Assembly Installation (Refer to GROUP 52A, Floor Console Assembly [P.52A-7](#)).



ACB03400 AB

Removal steps

- Release the parking brake lever.
 - Loosen the self-locking nut.
1. Parking brake switch connector connection
 2. Parking brake rear cable connection
 3. Parking brake lever assembly
 4. Parking brake switch
 5. Self-locking nut

>>A<<

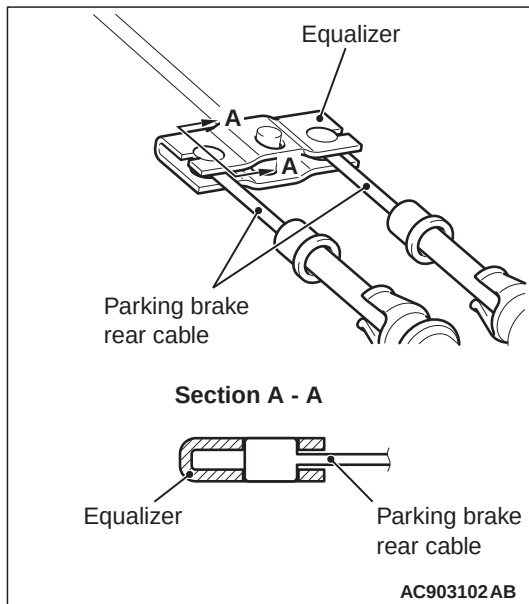
INSTALLATION SERVICE POINT

>>A<< PARKING BRAKE REAR CABLE INSTALLATION

⚠ CAUTION

Check that the equalizer and the rear parking brake cable are connected correctly. If the parking brake is applied with the equalizer and the rear parking brake cable connected improperly, the equalizer may be damaged.

Connect the rear parking brake cable to the equalizer as shown in the figure.



PARKING BRAKE CABLE

REMOVAL AND INSTALLATION

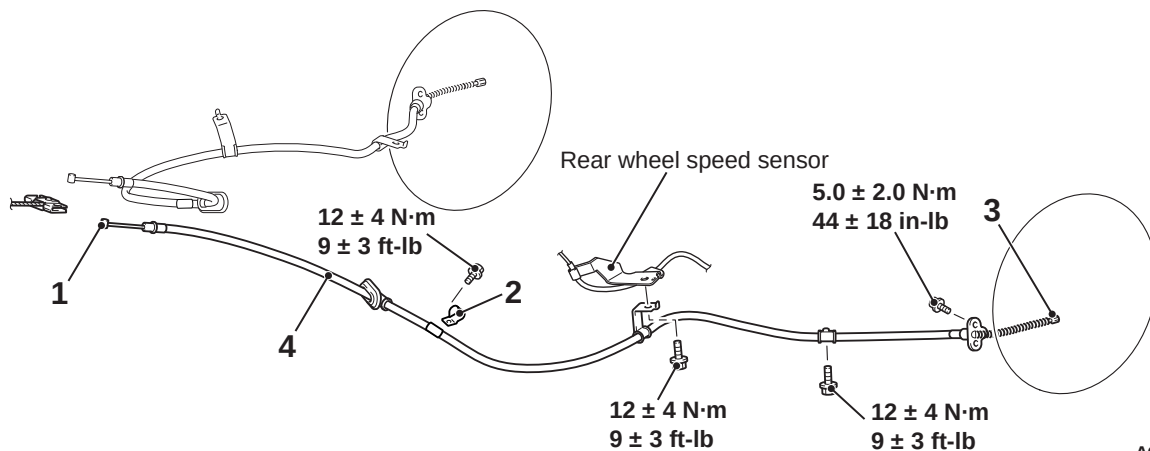
M1361001902305

Pre-removal Operation

- Floor Console Removal (Refer to GROUP 52A – Floor Console Assembly [P.52A-7](#)).
- Rear Scuff Plate Removal (Refer to GROUP 52A – Trim [P.52A-9](#)).
- Heat Protector Panel Rear Removal (Refer to GROUP 15 – Exhaust Pipe and Main Muffler [P.15-10](#)).
- Shoe and Lining Assembly Removal (Refer to GROUP 35A – Rear Drum Brake [P.35A-36](#)).
- Release the parking brake lever
- Loosen the self-locking nut

Post-installation Operation

- Shoe and Lining Assembly Installation (Refer to GROUP 35A – Rear Drum Brake [P.35A-36](#)).
- Heat Protector Panel Rear Installation (Refer to GROUP 15 – Exhaust Pipe and Main Muffler [P.15-10](#)).
- Rear Scuff Plate Installation (Refer to GROUP 52A – Trim [P.52A-9](#)).
- Floor Console Installation (Refer to GROUP 52A – Floor Console Assembly [P.52A-7](#)).
- Parking Brake Lever Stroke Adjustment (Refer to [P.36-5](#)).



Removal steps

- >>B<< 1. Parking brake rear cable and parking lever connection
- >>A<< 2. Clamp

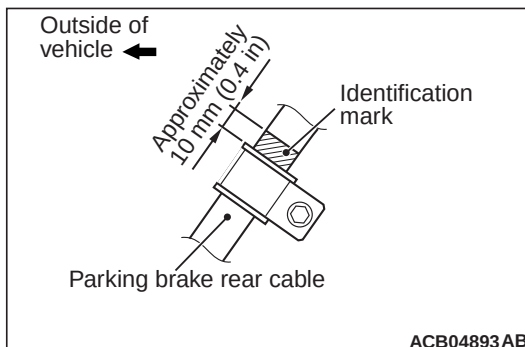
Removal steps (Continued)

3. Parking brake rear cable and backing plate connection
4. Rear parking brake cable

INSTALLATION SERVICE POINTS

>>A<< CLAMP INSTALLATION

Install as marking of parking cable to be shown position.



>>B<< PARKING BRAKE REAR CABLE
INSTALLATION CAUTION

Check that the equalizer and the rear parking brake cable are connected correctly. If the parking brake is applied with the equalizer and the rear parking brake cable connected improperly, the equalizer may be damaged.

Connect the rear parking brake cable to the equalizer as shown in the figure.

