

PROBLEM SYMPTOM CONFIRMATION

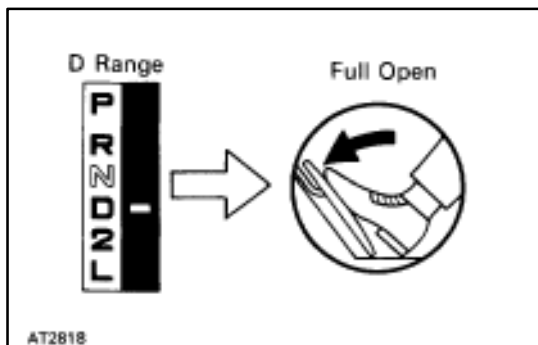
Taking into consideration the results of the customer problem analysis, try to reproduce the symptoms of the trouble. If the problem is that the transmission does not upshift, does not downshift, or the shift point is too high or too low, conduct the following road test referring to the automatic shift schedule and simulate the problem symptoms.

ROAD TEST

NOTICE: Perform the test at normal ATF operating temperature (50–80°C or 122–176°F).

1. D RANGE TEST (NORM AND PWR PATTERN)

Shift into the D range and hold the accelerator pedal constant at the full throttle valve opening position, and check the following points:



(a) Check up-shift operation

1–2, 2–3 and 3–O/D up-shifts should take place, and shift points should conform to those shown in the automatic shift schedule. (See page [AT-47](#))

Conduct a test under both Normal and Power patterns.

HINT:

- O/D up-shift or lock-up will not occur when the coolant temp. is below 60°C (140°F) and speed is under 60km/h (37 mph), or if there is a 10 km/h (6 mph) difference between the set cruise control speed.
- 3rd up-shift or lock-up will not occur when coolant temp. is below 35°C (95°F) and speed is under 40 km/h (25 mph).

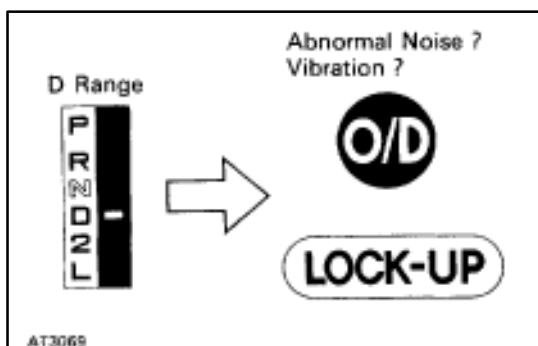
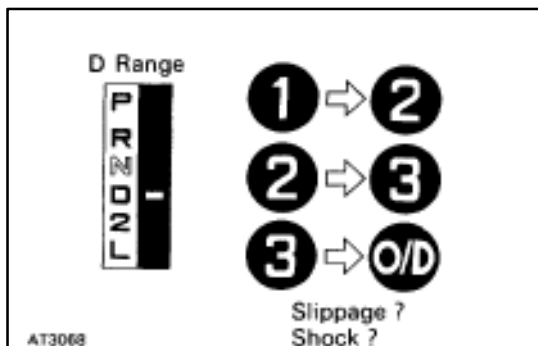
(b) Check for shift shock and slip

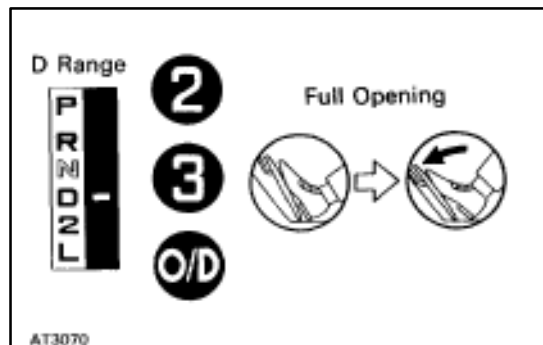
In the same manner, check the shock and slip at the 1 2, 2 3, and 3 O/D up-shifts.

(c) Check for abnormal noise and vibration

Run at the D range lock-up or O/D gear and check for abnormal noise and vibration.

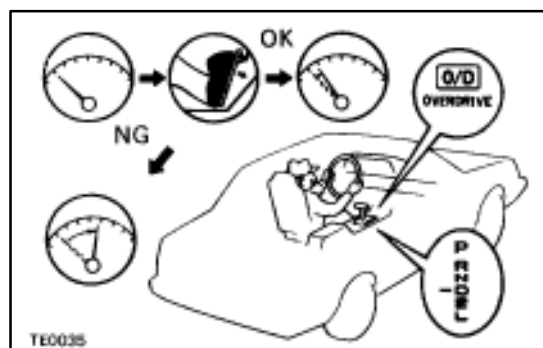
HINT: The check for the cause of abnormal noise and vibration must be made with extreme care as it could also be due to loss of balance in the propeller shaft, differential, torque converter, etc.





- (d) Check kickdown operation
While running in the D range, 2nd, 3rd and O/D gears, check to see that the possible kickdown vehicle speed limits for 2 1, 3 2 and O/D 3 kickdowns conform to those indicated on the automatic shift schedule. (See page [AT-47](#))

- (e) Check abnormal shock and slip at kickdown.



- (f) Check the lockup mechanism.

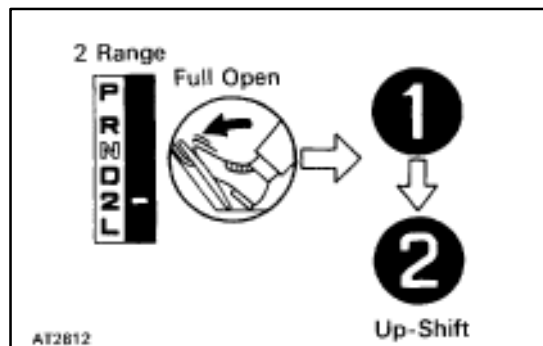
- (1) Drive in D range, O/D gear, at a steady speed (lockup ON) of about 58 km/h (36 mph).

- (2) Lightly depress the accelerator pedal and check that the engine rpm does not change abruptly.

If there is a big jump in engine rpm, there is no lockup.

2. 2 RANGE TEST

Shift into the 2 range and while driving with the accelerator pedal held constantly at the full throttle valve opening position, push in one of the pattern selectors and check on the following points:

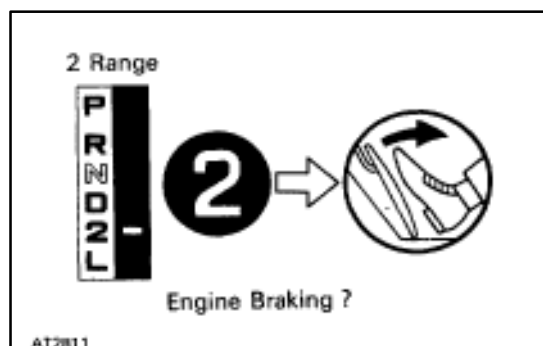


- (a) Check up-shift operation

Check to see that the 1 2 up-shift takes place and that the shift point conforms to that shown on the automatic shift schedule. (See page [AT-47](#))

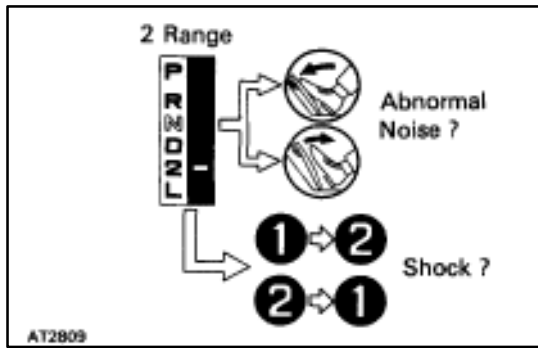
HINT:

- There is no O/D up-shift and lockup in the 2 range.



- (b) Check engine braking

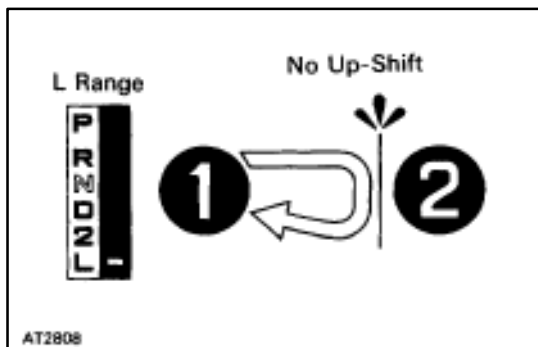
While running in the 2 range and 2nd gear, release the accelerator pedal and check the engine braking effect.



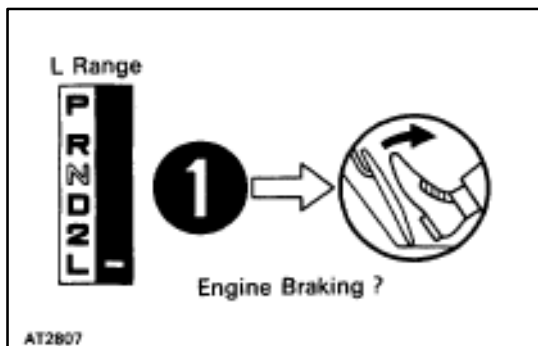
- (c) Check for abnormal noise at acceleration and deceleration, and for shock at up-shift and down-shift.

3. L RANGE TEST

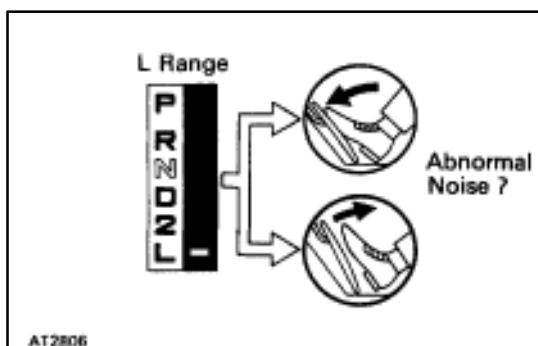
Shift into the L range and while driving with the accelerator pedal held constantly at the full throttle valve opening position, push in one of the pattern selectors and check the following points:



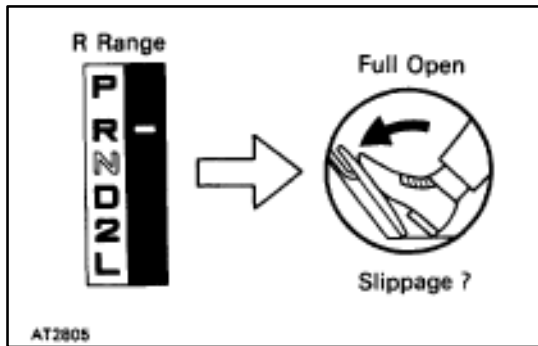
- (a) Check no up-shift
While running in the L range, check to see that there is no up-shift to 2nd gear.



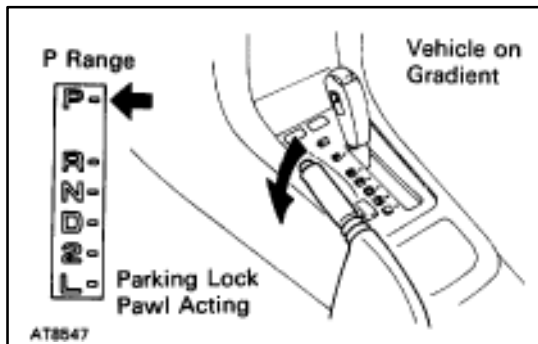
- (b) Check engine braking
While running in the L range, release the accelerator pedal and check the engine braking effect.



- (c) Check for abnormal noise during acceleration and deceleration.

**4. R RANGE TEST**

Shift into the R range and while starting at full throttle, check for slippage.

**5. P RANGE TEST**

Stop the vehicle on a gradient (more than 5°) and after shifting into the P range, release the parking brake. Then check to see that the parking lock pawl holds the vehicle in place.