



## 2013 Roadster SE5 not shifting when engine is warm

Printable  
Version

### Summary:

In the event you encounter a 2013 Roadster SE5 that has difficulty or does not shift at all when the engine is at operating temperature follow the instructions listed below.

### Type:

General

### TST Detail:

New for 2013 SE5 is the oil pressure regulator assembly. Previously, the oil pressure regulator plunger moved in the aluminum bore of the HCM housing.

In 2013 the HCM housing integrated a steel sleeve in which the plunger travels. This offers better control of the oil pressure needed to perform a shift.

If you encounter a unit which does not shift or has difficulty shifting when the engine is at operating temperature. The problem may be related to the steel sleeve not pressed in all the way. Just the slightest gap between the sleeve and the HCM housing will allow the oil to seep past the regulator and not build up enough pressure to shift.

A tool has been developed to press the oil pressure regulator sleeve in position, tool part number 529 036 304. This tool should only be ordered if the unit presents the conditions leading to this TST's repair as the tool has only 1 purpose.

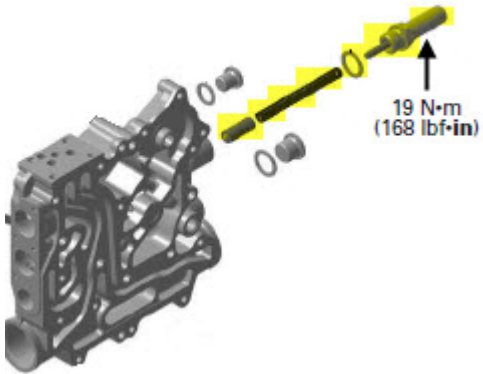


In order to determine if the oil pressure regulator sleeve is not pressed in correctly, do the following steps:

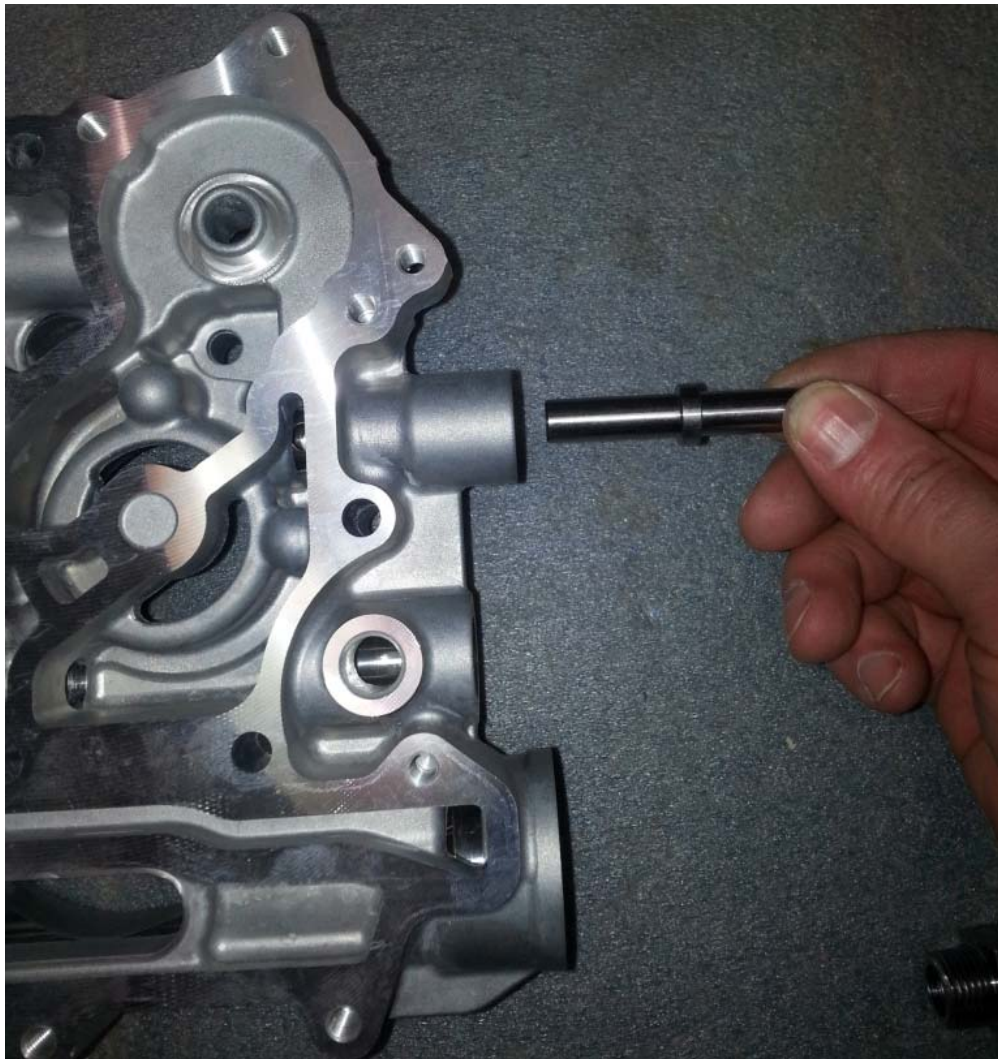
1. Confirm HCM oil pressure when a shift is requested
  - a. Install the oil pressure gauge (529 036 142) on the HCM housing. Refer to shop manual Section 02 ENGINE, Subsection 11 (HYDRAULIC CONTROL MODULE (SE5)), HCM OIL PRESSURE TEST.
  - b. Get unit engine up to operating temperature (radiator fan cycling).
  - c. Block the front wheels.
  - d. Lift the rear wheel by the rear shock
  - e. Shift the unit up to 5th gear then back down, repeat as necessary until shifting becomes difficult between Neutral and 1st gear. Either shifting will not be completed or a transmission ratcheting sound will be heard.
  - f. When shifting becomes difficult the HCM oil pressure **when shifting** should be below 131 psi. - if this is not the case the problem is not the oil pressure regulator sleeve and next steps should not be followed since the problem is elsewhere. Refer to other shifting diagnostic TSTs.
2. Use tool 529 036 304 to press oil pressure regulator sleeve in position.

Pictures below show the HCM housing only to simplify the illustration. This work can be done directly on the HCM.

- a. Access and remove the HCM oil pressure regulator (cap, sealing ring, spring, plunger).



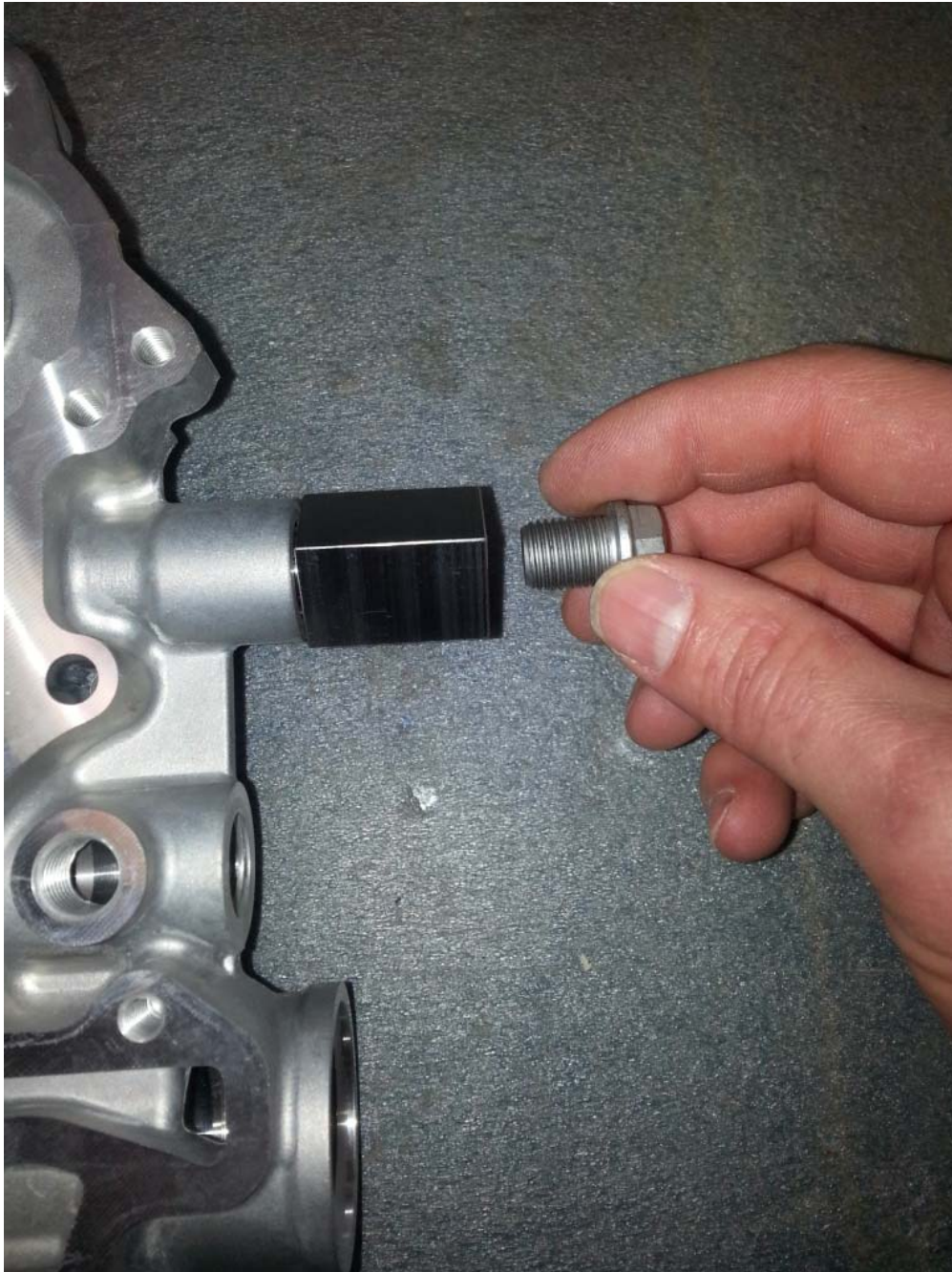
b. Insert tool plunger.



c. Hand tighten tool block until it bottoms out.



d. Hand tighten tool bolt.



- e. Using a 19mm open wrench, hold the tool block.
- f. Using a 13mm socket tighten the tool bolt until it reaches 15 Nm (11 lbf\*ft).





- g. Loosen the tool bolt and hand tighten the tool block again.
- h. Repeat steps e. to g. until the tool block can no longer be hand tightened.
- i. This means the sleeve has bottomed out in the HCM housing.
- j. Install the oil pressure regulator.
- k. Start the engine and let it idle 2 minutes.
- l. Adjust engine oil level.
- m. Confirm the oil pressure remains at nominal value of 174psi when shift is requested.

Claiming procedure:

Since this tool is designed for a precise repair procedure BRP will pay for it on the 1st claim of this type of repair. If you perform this repair on more vehicles, do not claim the tool more than once.

Trouble part: 420256510 (Pressure Regulating Piston)

System: 01

Job: 00

Part: 529036304 (tool) 1 time claim only  
Part extra labor: 420256510 ..... 1.0hr



**Attachment:**

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