



# Technical Service Bulletin

|   |   |   |   |
|---|---|---|---|
| SUBJECT:  |   |   | No: <b>TSB-21-34-001</b>                          |
| <b>Shock Absorber Leak Diagnosis</b>                |   |   | DATE: <b>May 2021</b>                             |
|   |   |   | MODEL: <b>See Below</b>                           |
| <b>CIRCULATE TO:</b>                                | <input type="checkbox"/> GENERAL MANAGER            | <input checked="" type="checkbox"/> PARTS MANAGER | <input checked="" type="checkbox"/> TECHNICIAN    |
| <input checked="" type="checkbox"/> SERVICE ADVISOR | <input checked="" type="checkbox"/> SERVICE MANAGER | <input type="checkbox"/> WARRANTY PROCESSOR       | <input checked="" type="checkbox"/> SALES MANAGER |

## PURPOSE

A shock absorber oil leak may result in replacement of absorbers unnecessarily when trace amounts of oil are noted to have adhered to the shock absorber. Small amounts of oil found on the shock absorber does not necessarily confirm that a leak is present and instead may be a normal phenomenon. In an effort to prevent unnecessary replacements and possible warranty claim denials, please follow the guidelines below when performing diagnostics.

## AFFECTED VEHICLES

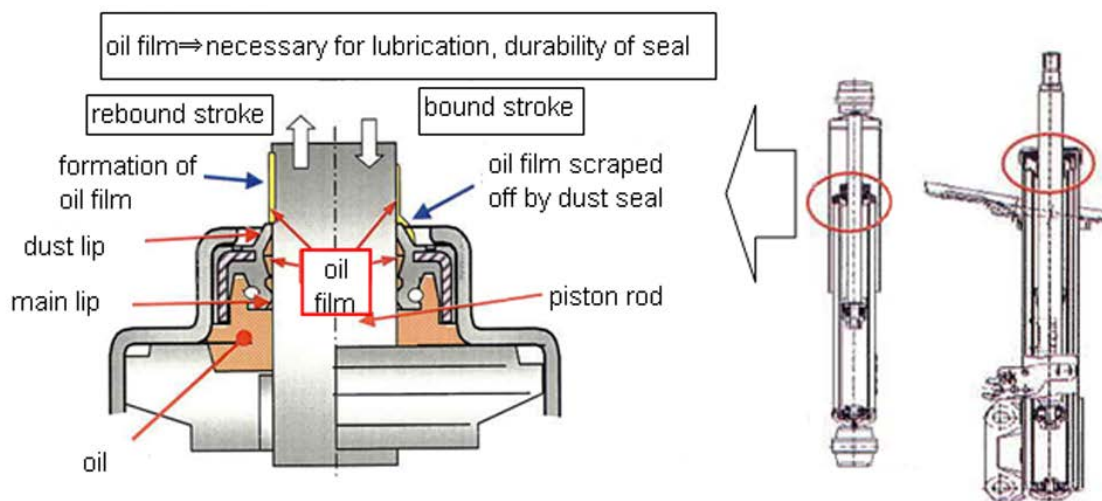
- All Eclipse Cross
- All Outlander, Outlander PHEV, and Outlander Sport
- All Mirage and Mirage G4

## DIAGNOSTIC INFORMATION/PROCEDURE

### Phenomenon & Cause: Sealing Structure of Shock Absorber

The sealing of the Shock Absorber has three functions:

1. To seal the Shock Absorber Oil inside of the Cylinder.
2. To prevent dust from entering into the inside of the structure.
3. To lubricate the Piston Rod by forming an oil film.



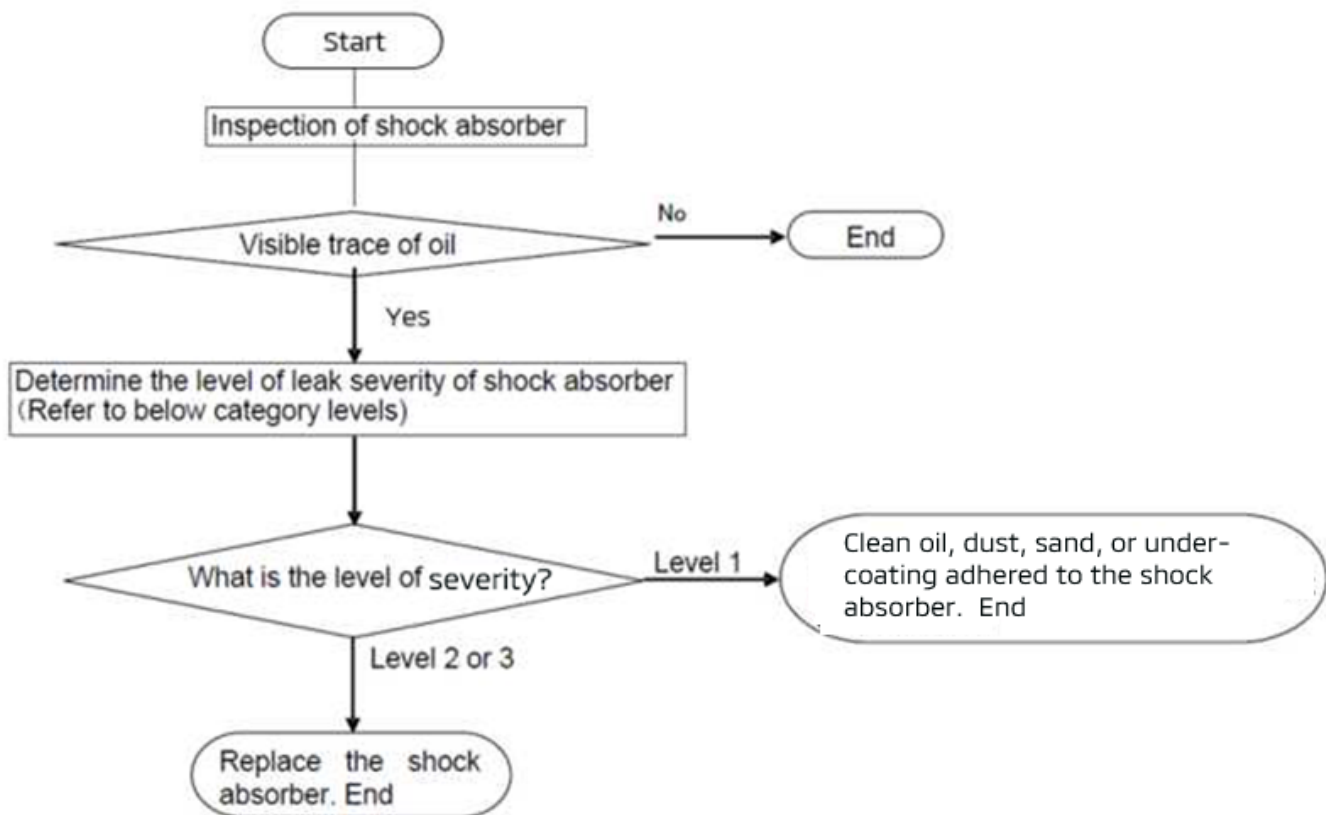
As shown in the illustration above, the function of the seal is to lubricate the Piston Rod by its sliding motion. The repetitive sliding of the Piston Rod may result in oil being scraped off of the Piston Rod or condensed oil vapor may adhere to the surface of the Shock Absorber casing. This small amount of oil seen on the surface of the Piston Rod may be recognized as an oil leak caused by defective sealing. However, this phenomenon is not a defect of the Shock Absorber. Please use caution though as a faulty seal could cause an oil leak that shows a similar appearance.

### Guidelines for Making Visual Inspection Judgments

The following diagnostic flowchart along with this guideline, should help when a visual inspection judgment regarding oil leaks is made.

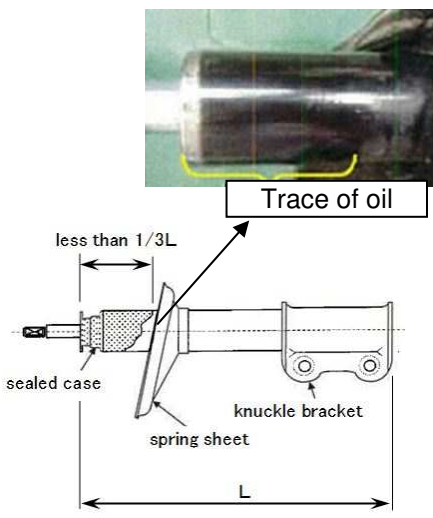
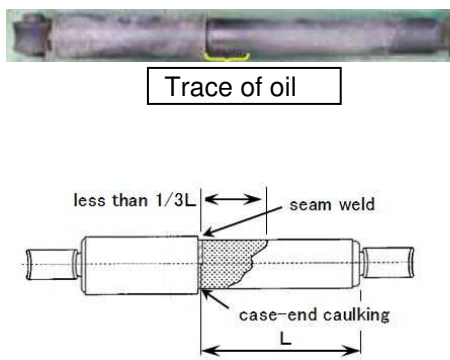
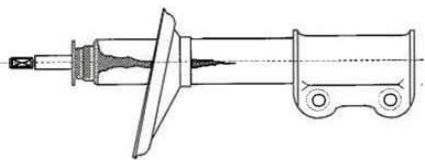
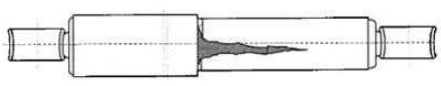
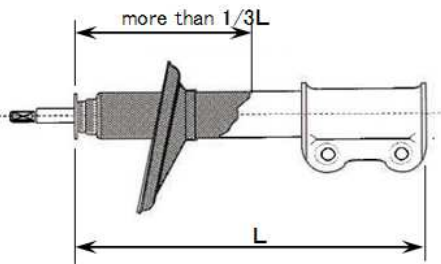
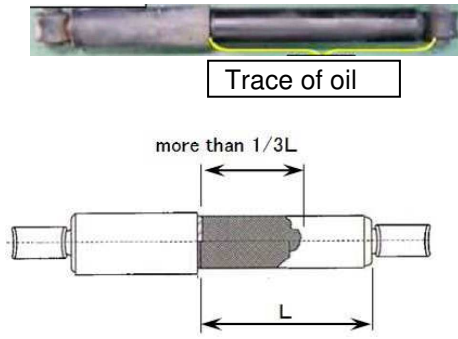
During inspection of the Shock Absorber, follow the flowchart below and if any visible oil adhesion is noted, determine the level of severity, and act accordingly.

- Level 1: Normal oil adhesion / No defect
- Level 2/3: Oil leak due to defect



Note: Refer to the following page for levels of leak severity

## Categorization Guidelines for Oil Leak Severity

|         | Shock absorber with spring sheet  | Shock absorber without spring sheet  | Remarks  |
|---------|---|--|--|
| Level 1 |  <p>less than <math>1/3L</math></p> <p>Trace of oil</p> <p>sealed case</p> <p>knuckle bracket</p> <p>spring sheet</p> <p>L</p> |  <p>Trace of oil</p> <p>less than <math>1/3L</math></p> <p>seam weld</p> <p>case-end caulking</p> <p>L</p> | <p>Trace of oil is less than <math>1/3</math> of case length.</p> <p><b>This level of oil trace pattern does not suggest progressive oil leak.</b></p> |
| Level 2 |   |   | <p>Band like oil drippage. (Irrelevant to length)</p> <p><b>Trace of oil of this configuration suggests a leak in a short span.</b></p>                |
| Level 3 |  <p>more than <math>1/3L</math></p> <p>L</p>   |  <p>Trace of oil</p> <p>more than <math>1/3L</math></p> <p>L</p>   | <p>Trace of oil is more than <math>1/3</math> of case length.</p> <p><b>Trace of oil of this level indicated leak is progressing.</b></p>              |

Note: Refer to the following page for levels of leak severity by model.

## Leak Measurement Table by Model

Measure the leak length and refer to the table below when concluding the visual diagnosis.

| Model           | Front/ Rear shock absorber | Part number   | L (mm) | 1/3L (mm) | 2/3L (mm) |
|-----------------|----------------------------|---|--------|-----------|-----------|
| Eclipse Cross   | Front                      | 4060A741 (LH)/742 (RH)  | 390    | 130       | 260       |
|                 | Rear                       | 4162A563 (LH/ RH)   | 270    | 90        | 180       |
| Outlander       | Front                      | 4060A659 (LH)/660 (RH)  | 390    | 130       | 260       |
|                 |                            | 4060A661 (LH)/662 (RH)  |        |           |           |
|                 | Rear                       | 4162A311 (LH/ RH)   | 255    | 85        | 170       |
|                 |                            | 4162A491 (LH/ RH)   |        |           |           |
| Outlander PHEV  | Front                      | 4060A665 (LH)/666 (RH)  | 390    | 130       | 260       |
|                 |                            | 4060A613 (LH)/614 (RH)  | 360    | 120       | 240       |
|                 |                            | 4060A753 (LH)/754 (RH)  | 390    | 130       | 260       |
|                 | Rear                       | 4162A492 (LH/ RH)   | 270    | 90        | 180       |
|                 |                            | 4162A457 (LH/ RH)   |        |           |           |
|                 |                            | 4162A387 (LH/ RH)   |        |           |           |
| Outlander Sport | Front                      | 4060A463 (LH)/464 (RH)  | 375    | 125       | 250       |
|                 |                            | 4060A509 (LH)/510 (RH)  |        |           |           |
|                 | Rear                       | 4162A280 (LH/ RH)   | 255    | 85        | 170       |
|                 |                            | 4162A402 (LH/ RH)   |        |           |           |
|                 |                            | 4162A456 (LH/ RH)   |        |           |           |
|                 |                            | 4162A321 (LH/RH)  |        |           |           |
| Mirage          | Front                      | 4060A345 (LH/ RH)/ 379 (LH/ RH) /382 (LH/ RH)/ 395 (LH/ RH)/ 493 (LH/ RH)/ 494 (LH/ RH) | 330    | 110       | 220       |
|                 |                            | 4060A494 (LH/ RH)   | 340    | 120       | 220       |
|                 | Rear                       | 4162A199 (LH/ RH)/ 395 (LH/ RH)   | 330    | 110       | 220       |
|                 |                            | 4162A219 (LH/ RH)/ 396 (LH/ RH)   | 345    | 115       | 230       |
| Mirage G4       | Front                      | 4060A397 (LH/ RH)/ 583 (LH/ RH)/ 589 (LH/ RH)   | 330    | 110       | 220       |
|                 | Rear                       | 4162A256 (LH/ RH)/ 415 (LH/ RH)   | 330    | 110       | 220       |

## WARRANTY

This bulletin is supplied as technical information only and is not an authorization to repair.

It is strongly suggested that a thorough inspection be performed prior to warranty claim submissions.