

**Steering: All Technical Service Bulletins****Steering - Squeak/Squeal Noises When Turning**

Date: January 31, 2007

Order No.: T-B-46.20/31b

Supersedes: T-B-46.20/31a dated June 30, 2006

Group: 46

## Revision History

Revision	Date	Purpose
b	1/31/07	Step 3 - Points a through d Added / Warranty Information Updated
a	6/30/06	Damage Code Revised
-	3/27/06	Initial issue

## SUBJECT:

Model 163.154/157/172/174/175

Squealing / Squeaking Noises From Area of Rack-And-Pinion When

Steering in Both Directions

If you receive customer reports in the above model vehicles of squealing or squeaking noises when steering in both directions when the engine is warm, the cause may be due to insufficient lubrication at the radial shaft sealing ring in the control head.

Lubrizol 6178 must only be used once in the steering system. No more than 50 ml of Lubrizol 6178 may be added. The prior use of Lubrizol 6178 in the system can be verified by a yellow dot on the steering gear and power steering pump housings.

## NOTE:

If the symptom continues to exist on vehicles where Lubrizol 6178 has been previously added, replace the steering gear per WIS Document No. AR46.20-P-0600GH.

Follow below steps to add additive Lubrizol 6178 into steering oil:

1. Check whether Lubrizol has already been added. This can be verified by a yellow dot on the steering gear and power steering pump housings.
2. If Lubrizol has already been added, repair the vehicle by replacing the steering gear per WIS Document No. AR46.20-P-0600GH.
3. Ensure steering system is brought up to operating temperature (approx. **80 degrees C**).
  - a. Start the engine.
  - b. Raise engine RPMs up to **1500 rpm**.
  - c. Turn steering wheel from rack end to rack end and back with normal turning velocity. The steering wheel may be held at the rack end for **1-2 seconds**.
  - d. Continue turning wheel as in step c until steering fluid is heated up to **80 degrees C** (approx **20 minutes**).
4. Suction off **50 ml** of steering oil.
5. Pour in **50 ml** of Lubrizol 6178 (**NOTE: Shake bottle before pouring in**).
6. Turn steering wheel to a limit stop with the engine running. Then hold steering wheel in this position for **1 - 2 seconds** and quickly (in jerking motion) turn the steering wheel out of the limit stop while increasing the engine speed from idle to approximately **1200 rpm**. Repeat this procedure at both limit stops until the noise is no longer audible.

## NOTE:

It is possible to repeat this procedure up to 20 times before the noise is no longer audible.

7. Apply a dot with yellow touch-up paint on both the reservoir and steering gear housings. These markings serve as identifier that additive Lubrizol 6178 has already been added to this vehicle and must not be added again.

Qty.	Part Name	Part Number
1	Lubrizol 6178 (in 50 ml container)	A001 989 61 03

## Parts Information

**NOTE:**

The following allowable labor operations should be used when submitting a warranty claim for this repair.

**In Case of Warranty**

Damage Code	Operation Number	Time (hrs.)	Model Indicator (s)
46481 36	46 0000	0.2 hrs. *	K1, K2, K3, K4, K5
If Lubrizol 6178 has been added	46 3610	5.3 hrs.	K1, K2, K3, K4, K5
	40 6500	0.8 hrs.	K1, K2, K3, K4, K5
	40 4064	0.1 hrs.	K1, K2, K3, K4, K5
OR			
Adding Lubrizol 6178	46 0000	0.4 hrs. *	K1, K2, K3, K4, K5

\* - Maximum allowable time with a separate time punch

Operation: Marking - steering gear and reservoir, check (46-0000)  
Power steering gear box/steering rack, replace (46-3610) Wheel alignment, perform (40-6500)  
Front wheel toe angle adjust (with vehicle alignment check) (40-4064)  
Bringing power steering temperature to 80°C and adding Lubrizol, perform (46-0000)