

## DUCELLIER & PARIS RHONE

Peugeot  
Renault

### DESCRIPTION

Starter is a 12-volt, four-pole unit of conventional design. Solenoid assembly is mounted on starter case. Starters have a overrunning clutch (pinion-free wheel assembly) connected by a shift lever to the solenoid plunger.

### APPLICATION

Application	Ducillier No.	Paris Rhone No.
Peugeot	6189A	D 8 E76
Renault		
R-5		D 8 E121
All Others		D 10 E54

### TESTING

#### PERFORMANCE TEST

**Lock Test** – To perform lock test, follow instructions and procedures outlined in instruction manual furnished with tester. Use a fully charged battery and carry out the test at a temperature of 77°F. Ammeter reading and starter torque should be within limits (see specifications). **NOTE** – No specifications available at this time for Peugeot starters.

#### LOCK TEST SPECIFICATIONS

Starter No.	Amps.	Torque (Ft. Lbs.)
D 8 E121	400	9
D 10 E54	below 400	over 13

### OVERHAUL

#### DISASSEMBLY

- 1) Remove two nuts on through bolts. Remove the rear shield.

- 2) Lift out brushes and retaining shaft for connecting fork between the solenoid and pinion. Remove bolts securing solenoid and remove solenoid.

- 3) Remove the body and armature.

#### PARTS REPLACEMENT & TESTING

**Brushes** – Inspect brush length and if less than  $\frac{5}{16}$ " on Paris Rhone models or  $\frac{1}{64}$ " on Ducellier models, replace the brushes.

**Commutator** – If commutator surface is scored, rough or burnt, dress with a lathe just enough to remove defective area and polish with a strip of fine emery paper. Check insulation undercut depth and it must be .02" deep.

**Armature** – Check armature for open, shorted or grounded circuits. Inspect armature shaft for bend; if bend is excessive replace armature. **NOTE** – Do not attempt to straighten a bent shaft.

**Bearings** – Inspect bearings for excessive wear and clearance between armature shaft and bearing. Replace as necessary.

**Pinion-Free Wheel Assembly** – If it is necessary to change the pinion assembly, remove the stop collar, slide assembly off and replace with a new pinion assembly. Reinstall stop collar and snap ring.

#### REASSEMBLY

Clean all parts and coat the sliding surface of armature shaft, splines, and bushings with multipurpose grease. Reassemble in the reverse order of disassembly while noting the following:

- 1) After completing reassembly, disconnect the field terminal from solenoid. Connect solenoid to battery and measure clearance of pinion gear to stop collar. Clearance should be .02-.099".

- 2) If clearance is not within limits, adjust by screwing the plunger fork or adjusting screw in or out to change clearance. Solenoid must be removed to adjust plunger fork (if equipped).

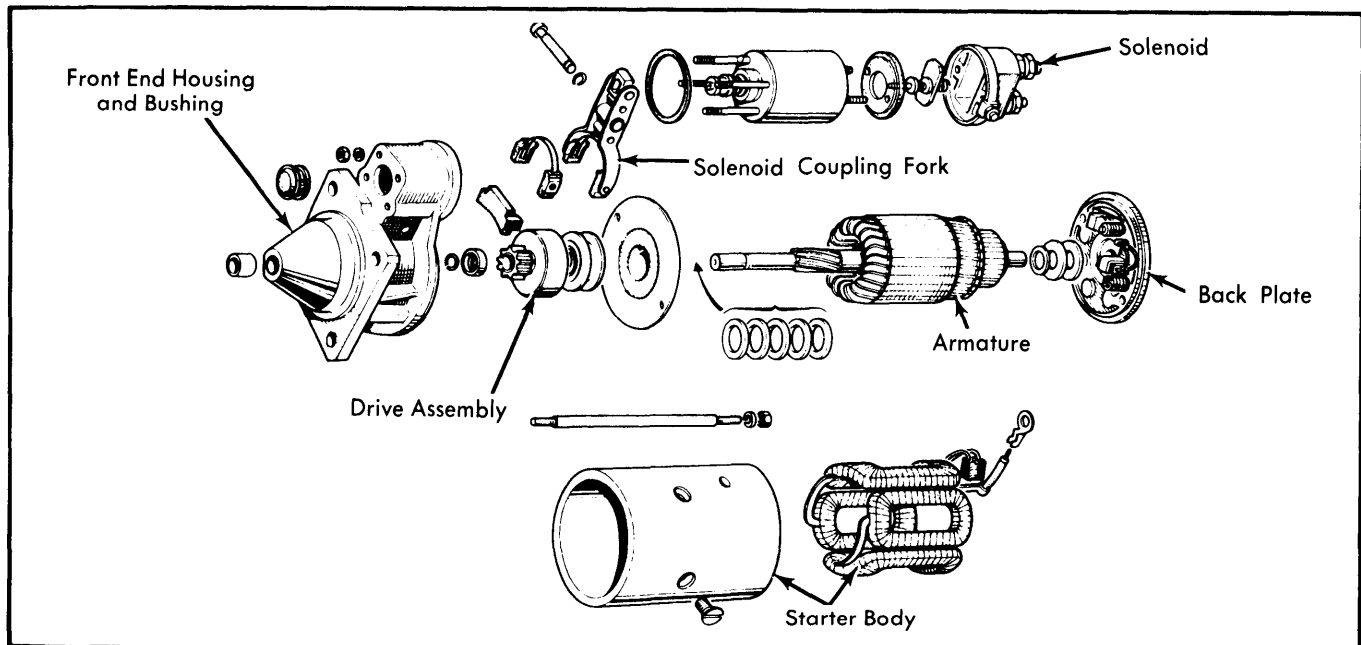


Fig. 1 Disassembled View of Paris Rhone Starter