

20 WEST END AVENUE NEW YORK 23, NEW YORK JUdson 2-5920 960 NORTH LA BREA LOS ANGELES 38, CALIF. OLdfield 6-6610

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# **SERVICE BULLETIN #65**

DS-19, 1D19 and ID-19 STATION WAGON

# CRANKSHAFT

Modification of Timing gear end bearing -

Our DS-19, ID-19 and ID-19 Station Wagon are now equipped with engines in which our DS-19-ID 19 crankshaft bearing located at the timing gear end has been modified.

1) MODIFICATIONS .

- a) The side rings #DS 113-91 a and b, of the rear bearing (bronze .1575 thick) are flow replaced by babbitt raced side rings #DS 113-91C (Vandervell, thickness 0.0906").
- b) The width of the rear crankcase bearing has been increased. Dimension "L" has been increased from 1.4169" to 1.4842", and the depth or side ring seat "a" (inside crankcase) from .0787" to .0551".



c) The width of the rear crankshaft bearing has been reduced. Dimension "L1" t has been brought down from 1.7362" to 1.6654".



- a) The thrust spacer #461751 (0.1969" thickness) has been replaced by a spacer #DS I2I-99A, thickness 0.2638" (see figures 1 and 2).
- b) The protusion of the #617005 mecanindus pin in the bearing cap has been reduced from 0.0934" to 0.0591".

# 2) REPAIRS

- a) Figure 1 shows the former production type assembly;
- b) The crankcase and the crankshaft are interchangeable. Thus, it is possible to:
  - assemble a new crankshaft vith an old type crankcase,
  - assemble an old type crankshaft with a new crankcase.

### HOWEVER, IT IS IMPERATIVE THAT THESE ASEMBLIES SHOWN ON FIGURES 3 and 4 ARE TO BE STRONGLY ADHERED TO.

- c) General rules for assembling.
  - with the old prodction crankcase, assemble the old bronze rear bearing side ring (.1575\* thickness) on the inside.
  - with the new production crankcase, assemble the new babbitt lined side ring on the inside C.0906" thickness).
  - with the old production crankshaft, install an old type bronze side ring (.1575" thickness) towards the outside of the crankcase.
  - with the old production type thrust washer (.1968 thickness) with the new crankshaft, install a new type Babbitt lined side ring (.0906" thickness) towards the outside of the crankcase, along with new type thrust washer (.2638" thickness).
- d) The new side rings DS 113-91C are to be installed so that the babbitt face which is chamfered at the inside diameter bears against the crankshaft.
- e) Case of installing a new crankshaft on an old crankcase (Fig.3)
- CAUTION: The protrusion or the pin has to be reduced to 0.059I", in such a way that it does not come into contact with the thrust washer. The depth of the pin recess will make it possible, in most instances, to push it in by another mm(.03937"). Where this can not be done, it should be shortened or replaced.
  - f) Case of installing an old new type assembly Fig.2, or of an old type crankshaft with a new crankcase assembly Fig.4.
- The possible lateral shift of the crankshaft (when the crankshaft pinion lock nut #461494 is not installed) is greater than the depth ("a"= 0.0555") of the babbitt lined side ring seat (inside crankcase).

: Vehicle	: Replacement of a former : crankcase with a new : production one	: Replacement of a former : : crankshaft with a new : : production one :
DS 19	<pre> ; DS 114-5D crankcase : (replaces DS 114-5) : : In addition, request: :-1 DS 113-91C sidering : (replaces DS 113-91A) :</pre>	: DS 121-04K crankshaft : (replaces DS 121-04) : In addition, request : :: : - 1 DS 113-91C side ring, : (replaces DS 113-91B : - 1 DS 121-99A thrust washer : (replaces 461-751)
: ID 19 and : ID 19 Station : Wagon :	: : DM 114-5 a, : (replaces DM 114-5 : : In addition, request: : - 1 DS 113-91 c	: : Same parts as for DS 19 :

- CAUTION: During and before each operation requiring that the pinion lock nut be removed, it is necessary, in order to avoid that the side ring comes out of its seat, to push the crankshaft towards the timing gear side ring (see arrow on figures 2 and 4) with the help of a small lever or wedge inserted between a crankshaft throw and the crankcase (any work performed on the timing gear requires that the lower section of the crank case #D 132-98 be removed).
- 3) Our Parts Department now delivers only the new production crankcases and crankshafts. It also supplies the side rings and washers that are required in order to complete the assemblies





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# SERVICE BULLETIN NO. #67 DS 19 NEW ENGINE

Our DS 19 are now equipped with an engine with the following special units

- Pistons
- Crankshaft
- Carburetor
- Spark Advance Control

1 - PISTONS These dome shaped pistons have three rings and reinforced piston pins. Due to the use of these pistons the compression ratio is raised to approximate 8,5 to 1 which requires a new modified cylinder head gasket. The latter is a double steel face "Curty" gasket with varnish finish.

### 2 - CRANKSHAFT

A damper is mounted at the end of the crankshaft next to the rear main tearing as illustrated on Fig. 1 (Regular part numbers are used for identification of. components).

Note: The firewall was modified to enable the installation of the new engine with the increased overall dimensions.

Repairs

- a) Assembling crankshaft in the crankcase. (See Tech. Bulletin # 65)
- The side rings of the rear main bearing are babitt lined. They are of Vandervell type and are 2.3 mm (.09") thick. Before or during any operation requiring the removal of the locking nut DS .121-10, it is necessary to bring the crankshaft to its extreme rear position and hold it there by either placing a wedge between the crankcase and the front balance weights of the crankshaft, or using a lever for this purpose.
  - b) Checking the endplay. The end play "G" must be between 0.03 and 0.06 mm. (.001" and .002"). To adjust the end play follow the instructions of the shop manual (Do not forget to place the disc throwout ring DS 131-10).
  - c) Timing cover installation.

Oil leak will be prevented only if the seal Al21-8O is properly centered on the crankshaft. To assure this, it is necessary to:

- fill the seal grove with grease,
- install the seal in the crankcase DS 13I-XA,
- install the timing cover without tightening it,
- install the Damper DS 126-1 which is self centering,
- finish the assembly by tightening down the timing cover bolt (Torque 11ft./lb).

d) Damper lock nut.

The correct torque is 180 ft./lb +/- 18 ft/lb.

The nut is locked by peening the shoulder metal into the key way on the crankshaft. It is reminded that for proper disassembly of this nut, the peened metal must be chiseled off and all burrs removed to avoid damage to the thread. CAUTION - This new engine is designed to operate with high test gasoline.

3 - NEW TYPE CARBURETOR WITH A BUILT-IN, Second Idling (Fig 2) Type: Weber 24-32 DDC

1) Specifications	:	
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Primary throttle	Secondary throttle
24	32
21	27
110	155
150	160
FI6	F16
45	
185	80
3.5	3.5
	Primary throttle 24 21 110 150 FI6 45 185 3.5

2) Tune up - The basic tune up remains the same. It is reminded that a tachometer must be used to obtain the correct results. Proceed as follows:

- 1- first idling 550 to 600 rpm
- 2- Clutch engagement 700 to 750 rpm

3- Second idling 875 to 925 rpm

To adjust first idling: Turn screw 'C" all the way in.

Then the first idling adjustment is made as follows:

- turning the regulating screw A,
- by setting the mixture control screw B.



To adjust the second idling: Unscrew the "C" screw until the desired rpms are reached.

Functioning

a) Second idling (see drawing). The spring "D" holds the control valve in open position and second idling circuit is fed by an air gas mixture.

First idling (when applying hydraulic brakes). When the braking action occurs the piston "E", moves do to the pressure "F" of the hydraulic circuit, and the control valve closes the air gas

mixture of the second idling circuit. The rpm of the engine will then return to the first idling speed.

Note: It must be noted that the torque of the bleed screw "G" should not exceed 5 ft./lb.

3) The use of the new carburetor required modification of the following units:

Intake manifold: The new carburetor has a different base mounting.

Hydraulic shifting block: The mounting of the gear control.corrector on the hydraulic shifting block has been modified to permit the installation of the second idling service.

# 4 - NEW SPARK ADVANCE CONTROL MECHANISM (Fig. 3)

The previous spark advance control with knob on the dash board is replaced by a new control fitted on the distributor. The upper plate is movable by means of an adjusting link.

Maximum advance is reached when Point A of upper plate is against the stop on the lower plate.

One complete revolution of the link corresponds to 1.5° of the crankshaft.

The initial adjustmentjust therefore be done in such a way that the maximum possible advance be equaled to 15°.

Adjusting the timing: Proceed as follows:

Turn the engine slowly by means of the crank handle in order to bring the first cylinder to the end of the compression stroke.

-Insert a 6mm. dia. rod in the hole provided in the clutch housing.

-turn the engine slowly until the rod falls into the recess in the flywheel.

-The engine is then at the firing point (12<sup>0</sup> flywheel).

Adjust distributor to maximum advance position (Point A against stop) by means of the adjusting link.

Back off link adjustment 2 revolutions to secure an eventual advance of 3<sup>0</sup>

Loosen distributor clamp screw and set point! as described in the Shop Manual.

Retighten clamp screw.









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# SERVICE BULLETIN # 71

# DS 19 - ID 19 CONFORT - ID 19 STATION WAGON ENGINE

The water pump and generator driveshaft assembly has been modified (see drawing).

Therefore, it is not possible to install

- -- the former camshaft with the new water pump driveshaft,
- -- the new camshaft with the former water pump driveshaft.

WATER PUMP AND GENERATOR DRIVE SHAFT ASSEMBLY





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SERVICE BULLETIN # 79

# 1963 -DS-I9 "AERO-SUPER" ID-19 SUPER" STATION WAGON "LUXE" AND "'COMFORT"

Service and repair operations of the above models are similar to the preceding models except for the following units.

- 1 RADIATOR AIR DUCT ASSEEBLY REPLACEMENT.
  - -Remove the air duct from the radiator frame, (loosen the 2 screws on left side and remove the 2 screws on right side).
  - -Remove as one unit the spare tire support bar and the air duct and shroud assembly.
- 2.- CYLINDER HEAD REPLACEMENT.
- Remove the right suspension sphere.
- Remove the upper exhaust shield.
- Remove the front shield support bracket.
- Remove the fastening screws and nuts of the lower shield. Disengage the shield from the mounting stud on the rear bracket.

To remove the rear cylinder head shield:

- Remove the screw fastening the shield to the cylinder head. Loosen the fastening screw on engine block (these 2 screws are accessible from the rear of the engine.

FLEXIBLE MUFFLER INLET TUBE REPLACEMENT.

### REMOVAL

- Loosen the clamps of the flexible tube mounts.
- Disengage the tube by further introducing it into the muffler
- Remove the flexible tube.

#### INSTALLATION.

- Properly align the muffler and tighten its holding screws.
- Loosen the clamps and the mounting bracket of the manifold exhaust pipeand position the flexible tube in such a way that it can rotate and move on its ends.
- Tighten the clamps and the mounting bracket of the manifold exhaust pipe and make sure that the flexible tube can still rotate free. Place the clamps as shown on the fig.1 making sure that the open slots on both parts will not coincide. Also allow proper clearance to avoid that parts touch the chassis due to vibration.

-Torque the mounting bolts to 12-13 ft/lbs. for the front clamp and 7-8 ft/lbs. for the rear clamp.

# 4.ENGINE REPLACEMENT.

- Remove air intake shroud assembly with the spare tire support back as one unit.
- Remove the manifold exhaust pipe (one bracket supports this pipe or the engine block).
- Remove the pressure regulator hydraulic line from the 4 way union
- Remove the upper exhaust shield to give access to the rear right engine mounting block, fastening bolts.
- To avoid damage to brake cooling ducts by brake discs while engine is being raised the front gravel shield should be lowered. To do this loosen by few turns the front right and left fastening screws and remove all other screws.
- Before installing the engine make sure that the rear engine mounting blocks are properly adjusted. The distance between the upper face of the lower nut and the mounting seat on the suspension bracket must be 3.86" (98 mm.). On the blocks assembled since October 1962 and indexed with green paint, this distance should be 3.701 (94 mm.).

# **5.RADIATOR - REPLACEMENT**

- Disconnect the air intake duct and remove the radiator. Be cautious not to damage the fan (the fan can be removed with caution).
- 6. GEAR BOX REPLACEMENT
  - Raise the front of the car and install the support stands.
  - Remove as one unit the air shroud and duct assembly and the spare tire support bar.
  - Disconnect the accelerator linkage to avoid damage while engine is being raised.
  - Remove the fan to avoid damage while engine is being removed.
  - Disconnect the HP pump line from pressure regulator (for DS and ID 19 equipped with power steering).
  - Lower the front gravel shield (see paragraph 4), to prevent damage to muffler inlet flexible tube disconnect it from the manifold exhaust pipe.

# 7. GEAR BOX - OVERHAUL (fig. 2)

The following applies to ID and Station Wagons equipped with synchronized 1st speed gearbox. The procedure of overhauling the gearbox is the same as the one of the previous models. However, to assemble the counter shaft proceed as follows:

- a) Place the slowing ring (1) on the 1st speed synchro sleeve (2). Engage the tail end into the pinion hole.
- b) Thoroughly clean the male and female surfaces of the synchro (2) and 2nd speed gear (3). It is even advisable to use an abrasive paper to clean the 2nd speed pinion cone. Finish cleaning with gasoline and blow dry with air, lubricate parts.
- c) Place the synchro (P) on the and speed gear (3). Place the sliding collar (4) and orient the teeth to match the 2nd speed gear. Place on the train assembly, the syrchro collar (5), rotate the sleeve (2) to engage the mating pins into the synchro slots. Engage the 1st speed idling gear (C) into the synchro collar (5). Install this train and the 3rd and 4th speed train in the gear box housing.
- d) Install the gearbox (same procedure as for the previous models).
  - Install the gearbox cover.
  - Adjust the travel of the shift rails:

Reverse gear: similar to previous models 2nd speed. Turn the end plug 1/14 of a turn in.

**BRAKE UNIT - REPLACEMENT** 

- When disassembling a gear box check the dimension "a" (see the sketch). Measure the total llength of splines and grove on 2nd reverse pinon. The new dimension is .504" (or 12.8 mm)
- If the dimension'a" is .622! (or 15.8 mm.) the following parts are to be replaced

2nd and reverse gear (on drive train) part # DW 333-15

- 1st speed synchro (matched set)part # DW 335-09
- sliding collarpart # DW 335-18
- 8. BRAKE UNIT REPLACEMENT

It is not necessary to remove the front engine support crossmenber.

- Place the front of the car on support stands.
- Remove as one unit the spare tire support and the air shroud and duct assembly.
- Remove the radiator.
- Remove the gravel shield under the gearbox.
- Attach the engine/transmission unit to hoist with a rope. Disassemble the gearbox support brackets from the chassis and bring the engine-transmission unit down to lay on the cross member.

NOTE: On DS - ID & STATION WAGONS equipped with power steering make sure there is a sufficient security in the line connecting the HP -pump -pressure regulator and steering unit to allow engine to descend. If not, disconnect the line from the HP pump

-Remove the brake unit by sliding it forward.

9. BRAKE DISC - REPLACEMENT.

It is not required to remove the steering unit.

- Remove the brake unit (see paragraph 8) then disconnect the pivot and remove the disc assembly.
- 10. PRESSURE REGULATOR REPLACEMENT

This operation is different from the preceding model. Proceed as follows:

- -a) Release the pressure
- -b) Disconnect the ground cable from the battery
- -c) Remove the left suspension sphere and the fuel pump
- -d) Loosen completely the fitting from the pressure regulator of the hydraulic line connecting the HP pump.
- -Disconnect the pressure regulator line from the 4 way union.
- -Disconnect the return line to reservoir from pressure regulator.
- e) Loosen the pressure regulator clamp; remove the upper fastening screw. Move the pressure regulator slightly over to give access to the fitting of the hydraulic line. Disconnect this line from the pressure regulator. Bring the pressure regulator forward, move the accumulator rearwards and remove the unit from the top of the car.
  - Remove the line connecting the pressure regulator to 4 way union.
- f) Clean this line and the tip of the line connecting the HP pump to pressure regulator in order to facilitate the installation of the seals.

### INSTALLATION: Observe the following procedure

- a) Place the holding clamp on pressure regulator
- b) Place the pressure regulator on the car. Place the hydraulic line from pressure regulator to 4 way union and connect it to pressure regulator - Do not tighten the fitting. Connect the line from HP pump to pressure regulator
- c) Set the upper fastening screw of pressure regulator by engaging few threads only. Install the holding clamp on pressure regulator support. Place the clamp nut.Tighten the upper screw. Tighten the clamp
- d) Connect the line from pressure regulator to 4 way union. Tighten all fittings.

# **11.STARTER - REPLACEMENT**

This operation is different from the preceding model. Proceed as follows:

- a) Place the front of the car on stands. Release the hydraulic pressure.
- b) Disconnect the battery ground cable. Remove the right front suspension sphere.
- c) Remove air filter fastening nuts but leave air filter on carburetor.
- a) Remove the upper exhaust manifold shield. Remove the shields front support bracket.
- e) Loosen the fastening clamp of the manifold exhaust pipe and remove the fastening screw of the pipe support bracket on the engine block. Turn this bracket to the rear. Remove starter shields.
- f) Remove the lower exhaust manifold shield fastening screws and raise the shield as high as possible under the manifold without taking it off.
- Disconnect the starter cable from starter terminal post.
- Loosen the nuts and screws of the drive housing. Remove the starter fastening bolt.
- Remove the starter unit from the clutch housing swing it to the front and present the drive housing between the engine block, the clutch housing and the manifold exhaust pipe. Remove the starter unit from the top of the car between the manifold exhaust pipe and the lover manifold exhaust shield.

Be careful not to damage the shield.

When reinstalling a starter unit, exert caution by properly aligning the starter shield bracket located under the starter fastening jock nut.

# 12. HOOD LOCKING

If a hood lock connecting cable escapes his latch because of a loose cable set screw or if the cable has not been connected it is possible to reach the latch by removing the headlight assembly. On the left side however, the latch cannot be released by the hand alone, the use of a small hook is required.

13.STEERING COLUMN.

On the ID and Station Wagon models the assembly is the same as on the DS model.







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# -SERVICE BULLETIN # 81 -Models: ID-19 ID-19 STATON WAGON DS-19 GRAND ROUTE

# SUBJECT: CLUTCH LINKAGE

On cars now leaving the plant a recess has been machined into the clutch housing directly behind the clutch-adjusting rod. The clutch adjusting rod has also been modified.

PARTS: Previous clutch adjusting rod # DX 314 - 21 (Fig.1) New clutch adjusting rod # DN 314 - 21A (Fig.2) The clutch housing part # remains the same.

SERVICING:

The new and previous parts are interchangeable. However the play between the clutch adjusting rod and tie clutch housing (play "J" Operation # D 314-0 of ID-19 Shop Manual) is to be observed as follows

	Clutch Housing	
	Without recess	With recess
Rod DM 314-21	1 mm	2.5 mm
Rod DM 314-21A	2.5 mm	4 mm









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# SERVICE BULLETIN # 82

Models: DS-19 ID-19 ID19 STATION WAGON

# SUBJECT: IGNITION

On cars now leaving the plant the spark plug extensions are 10 mm. shorter and the spark plug wires are 10 MM longer.

PARTS. The new parts are sold under the following P/N

<ul> <li>1st cylinder s/p wire</li> </ul>	DS 212-5H
- 2nd cylinder s/p wire	DS 212-6H
- 3rd cylinder s/p wire	DS 212-12H
- 4th cylinder s/p wire	DS 212-13H
- Spark plug extension	DS 212-72E
- Extension insulation sleeve	DS 212-70C

# SERVICING

To remove a spark plug

- 1) Loosen the plug with a spark plug wrench.
- 2) Introduce a rubber tube 3/16 ID X 4" L on the extension terminal (tube DS 453-163 may be used for this purpose).
- 3) Unscrew and remove the plug.

To install a spark plug

- 1) Fit the rubber tube on the extension.
- 2) Insure the spark plug catching a few threads.
- 3) Tighten the plug with a spark plug wrench.



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# SERVICE BULLETIN # 85 -

# MODELS: ID-19 SUPER & STATION WAGONS DS-19 AERO-SUPER & DS GRAND ROUTE

SUBJECT: AIR INTAKE SHROUD

On cars now leaving the plant, the upper vinyl section of the radiator shroud is provided with a zippered opening. Its purpose is to give access to the radiator core. Also a wire screen is mounted in front of the lower metal section of the shroud.

PARTS

	Previous	New
Upper vinyl section and frame assembly	DS242-49	DS 242-49A
Rubber gasket for shroud	DS 242-55 (2 gaskets)	DS 242-55A
WireScreen		DS 242-90

SERVICE

It is possible to install the wire screen on cars without it, providing to replace the gasket DS 242-55 by 2 gaskets DS 242-55A. At the same time the replacement of the vinyl section DS 242-49 by the DS 242-49A Is recommended.

The wire screen is simply held in place by the gaskets.

Before installing the wire screen, check the radiator core for cleanliness.



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# **SERVICE BULLETIN # 95**

# MODELS: DS 19 ALL TYPES AND ID 19 STATION WAGONS

# SUBJECT: OIL PAN MODIFICATION

The engine oil pan and the oil return pipe from the main bearing cap have been modified.

# SERVICE:

Our parts department is now supplying the new type of oil pan only.

When replacing the old pan with the new one, the old oil pipe must be cut to the dimension shown in the figure below.

It is also possible to unscrew the old tube and screw a new one in place. Be sure the new tube is set in place tightly.





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# SERVICE BULLETIN # 97

# MODELS: 1D5 19 - ID 19 \_ STATION WAGON - DS GR

SUBJECT: MOTOR - WINDSHIELD WIPERS - DASHBOARD (Various Modifications)

ALL MODELS "D" TYPE

Windshield wipers: Two-speed motor with parallel arm sweep. The cowl frame (location of windshield wiper arm pivots), the hood and the wiper control linkage are different from previous models.

- NOTE: The fast speed should be used dining heavy-rains only. It should not be used when operating the windshield washers.
  - B- ID 19 AND STATION WAGONS: Dashboard The dashboard and instrument layout have been modified.
  - C- ID 19 Engine The power has been increased to 75 BHP from 70 BHP.

The crankshaft is identical to the DS type (with vibration damper).

The cylinder head is identical to the DS type.

The carburetor is a Solex model 54 PBIC, with the identification mark "50" on the starter (choke) lever.

The calibrations are as follows:

Venturi	27
Main Jet	130
Air Correction Jet	190
Emulsion Tube	19
Idling Jet	50
Idling Air Bleed Jet	130
Injector Pump Assembly	60
Accelerating Pump Jet	50
Starter Jet	115
Starter Air Jet	4
Float	5.7 grams

The ignition advance curve is modified (see diagram).





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# SERVICE BULLETIN # 98

### MODELS; DS19 (All type.) - ID19 - STATION WAGON SUBJECT; CRANKCASE VENTILATION SYSTEM

To comply with US specifications, our cars are now equipped with a crankcase ventilation system.

This system reintroduces the blowby gases to the carburetor and to the intake manifold, so that they are carried into the combustion chamber and burnt.

This system consists of two circuits (see diagram);

- 1- Primary circuit: which connects the valve cover to the intake manifold through a T connection and a positive crankcase ventilation valve controlled by the intake manifold vacuum.
- 2- Secondary circuit: which connects the second side of the T upstream of the carburetor to the tube between the air cleaner and the carburetor

This closed crankcase emission control system is installed on an engine without breather, and equipped with a sealed oil filler cap and dipstick.

Two flame arrestors are incorporated; the ventilation valve itself and a chamber containing metal strips mounted on the underside of the valve cover just after the oil baffle.

#### MAINTENANCE

The ventilation valve assembly must be cleaned every 6 months or 5000 miles (whichever comes first) and more frequently in service such as extensive engine idling during cold weather (use a cleanser). A clogged control valve may cause oil leakage (the pressure builds up in the crankcase), or making satisfactory adjustment to the engine idle settings.

#### PARTS

-1 Valve cover connection rubber cap	DS132-48
-1 Collar gasket	DS132-78
-1 Valve DS	132-79
-1 Cap support	DS132-80
-1 Oil deflector	DS132-91
-1 Primary hose	DS132-92b
-1 Gasket	DS132-93
-1 Flame arrestor screen	DS132-94
<ul> <li>1 Intake manifold connector</li> </ul>	DSI32-95
-1 Connecting collar	DS132-97
-1 Intake manifold	DS141-13b
-1 Manifold closure plate	DS I41-95a
-1 Air intake tube	DS171-3c
-1 Mounting bolt	484-5
-1 Washer	2482-S
-1 Lock washer	2514-S
-3 Clamp	2555-S
-1 Clamp	2994-S
-1 Clamp	614-032





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# SERVICE BULLETIN # 103

MODLES: 'D' All Types (DS-DS GR- - ID \_ SW) SUBJECT: ENGINE(Centralizing the timing case cover)

To assure a good seal at the crankshaft (or damper) and the timing case cover on the motor of the above models, one must accurately center the timing case cover at the time of assembly

Use the centering tool 1679-T

- Assemble the oil slinger on the crankshaft
- Place the timing case cover and its gasket (with hermetic applied). Place the sealing washers under the screws entering the engine block
- Attach the screws without tightening
- Place in position the centering tool I679-T
- Tighten the cover screws to 10 ft/lbs.

Remove the tool I679-T

- Pack wheel bearing grease between the sealing lips of the new seal. Mount the seal with the aid of the tool I679-T
- Mount the damper and its locking nut. Tighten this nut between I65 to 180 ft/lbs. To lock the nut, punch from the nut shoulder into the crankshaft groove.

NOTE:

This method should be followed preferably to the more delicate but less reliable procedure recommended in the Repair Manuals before development of the tool I679-T

Service Bulletin Nº 103 Diagrams









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### SERVICE BULLETIN # 109 MODLES: DS - ID - SW ALL Models SUBJECT: COOLING SYSTEM - Anti-Freeze

The following table lists the capacity of the cooling system and the amount of anti-freeze necessary for protection to 5F.

Model	Total Capacit	ty(qts) Glycol(qts).
DS19 Standard Heater	10.9	3.2
Heavy Duty Heater	12	3.7
ID19 Old type system	10.3	3.2
Standard Heater	10.9	3.2
Heavy Duty Heater	12	3.7

\*Provides a glycol concentration of approximately 30%.

CHECKING VECHILE NOW IN OPERATION - The following table indicates the glycol concentration necessary for protection at the temperature given: This testing must be done with the mixture at a temperature of 60F.

Temperature	Glycol concentration in a mixture of anti-freeze and water	Specific gravity of the mixture at 60F
23F	13%	1.019
14F	22%	1.032
5F	30%	1.044
-4F	37%	1.054
-13F	40%	1.058

OPERATING CARS WITH ANTI-FREEZE IN THE COOLING SYSTEM.

- At low temperatures, the viscosity of the glycol-water mixture considerably slows the flow of the cooling system liquid.
- When starting in cold weather it is necessary, before driving, to have the engine idling at a slightly accelerated speed for several minutes0 This will permit the cooling circulation to flow normally
- When the system is cold a sudden acceleration may create a partial vacuum in the radiator resulting in collapsed or even broken hoses.
- During a repair, if it is necessary to drain a radiator, the anti-freeze and water mixture may be saved in a clean can and re-used.

#### ALCOHOL

- The use of alcohol in the cooling system is prohibited on all models, especially those equipped with thermostats. (DS- all types, ID- all types, Station Wagon).
- Because the boiling point of alcohol is equivalent to the operating temperature of the engine, constant evaporation occurs which decreases the concentration of alcohol in the mixture. It thus becomes quite difficult to know after a period of operation the exact degree of protection against freezing.

RECOMMENDED PRODUCTS.

Glycol is the substance recommended by our laboratories. Some of the brand names under which it is sold are listed below:

**GULF - TELAR - ZEREX** 



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# SERVICE BULLETIN # 117 MODELS - DS - ID AND ID STATION WAGON

SUBJECT MOTOR - Mounting the Water Temperature Indicator.

A water temperature indicator is now mounted on the above mentioned vehicles.

The thermometric sending unit is placed on the sealing plate at the left front of the cylinder head.

The temperature gauge is located at the lower right section of the speedometer instrument panel.

When the motor is operating at normal temperature, the gauge needle is in the white center zone on the dial. In the left, striped zone, the motor is too cold; in the red zone to the right, it is too hot.

# SERVICE

The violet terminal of the temperature gauge is connected to the blue terminal of the ignition switch. The blue terminal of the temperature gauge is connected to the sending unit.



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# SERVICE BULLETIN # 118

MODELS DS - DS GR - ID 19 - STATION WAGON (all types)

# SUBJECT

MOTOR - Cooling System - Thermostat

A thermostat calibrated at 78C (173<sup>°</sup>F), Part number DS 234-01 A, is now installed on the following Models:

-DS and DSGR (all types)

-ID and Station Wagon - with standard or heavy-duty heaters.



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SERVICE BULLETIN #123:

### MODLES: DS - ID STATION WAGON

SUBJECT: CLUTCHING - Modifications on the Pressure Plate

On the clutch pressure plate of the above-mentioned vehicles:

- the pressure springs are modified.
- an insulating washer is placed between the spring and the pressure disc.

The overhaul of the mechanism is as follows: Disassembly: (see plate 42 attached).

- 1) With a center punch mark the position of the pressure disc (1) on the over (2). Remove the peened metal from the screw slots (3). Compress the mechanism held by the pressure plate cover in order to relieve the tension existing on the screws (4). Save the lever washers (9).
- 2) Disengage the plate (1) the insulating washers (10) and the spring cups (7).
- 3) Disengage the lever (5) and the lever springs (8).
- 4) Clean all parts.

Assembly: (see plate 42 attached).

- 5) Rectify the face of the clutch plate (1) on a lathe (it is preferable to use a grinding wheel; however, one can, if necessary, do this operation with a cutting tool). Note: Each resurfacing of the disc face corresponds to a decrease of mechanism pressure on the clutch friction disc. To compensate for this adjust the tension of the springs by means of sheet metal washers of a thickness equal to the depth removed from the face.
- To determine the thickness of these washers remember that the dimension "c", fig. 4, originally is 13 +0/-0.3mm. If this dimension is less than 12 mm the plate must not be refaced. It must be replaced.
  - 6) Calibrate the springs (Use the tool 2420-T, see Plate 6 Rep. Man.):

Springs (purple). Length = 27.3 mm under a load of 60.75 + 02.5/ -0 kg = 44.6 mm free length, no load

Springs (green). Length = 27.3 mm under load of 49 + 2.0/- 0 Kg. = 45.5 mm free length, no load.

Note: If you do not have the tool to verify the calibration it is necessary to replace the springs at each overhaul of the mechanism.

7) Attach the springs (8) to the cover (2).

- 8) Set in place the insulating washers (10), the clutch springs (6) on the bosses of the plate (1), placing a green spring between two purple springs in each group of three situated between two levers. Place the cover (7) on each spring so that the washers, made as a result of the work indicated in Par. 5, are set between the spring and the cover.
- Set the cover (2) over the spring cups in accordance with the reference marks made on disassembly. Place the levers (5) under the springs (8). Set the screws (4) in place. Compress the assembly. place the lever washers (9) on the screws. tighten the nuts (3).

9) Adjust the mechanism.

Place the clutch assembly on a mounting. (Use the tool 1701-T, the finger, the disc and the clamp I704-T, see Plate 43). tighten the nuts (3) to bring the levers (5) in contact with the central pivoting finger (C) of the tool (see Plate 43 - fig. 3).

In these conditions (clutch in "engaged" position) the dimensions to be obtained are

-37 mm between the levers and the plate and

-17.8 mm between the plate and the cover (see Plate 43 - Fig. 2).

Exercise the clutch and re-adjust the levers. Lock the nuts by peening the metal into the screws (4) slot by means of a hammer and punch.

- Note: If you do not have the tool I701-T, use the simplified mounting 1706-T (see Plate 44). However, it is necessary to be sure the levers are adjusted correctly. Excercise the clutch mechanism with an arbor press before locking the nuts.
- With this mounting the dimension "c" between the upper side of the levers and the surface plate is 37 mm.
- IMPORTANT: The clutch mechanism can only be adjusted in the operating position (engage). The mountings represented in Plates 43 and 44 show it in this position.

The dimensions indicated can only be read using these mountings. When the pressure plate assembly is removed from the mounting it is impossible to read the exact dimension.

The Plates 6, 43 and 44, indicated above are in the DS 19 Repair Manual.

The new springs number are	
green:	DS 312-2
red:	DS 312-2A

The insulating washer number is

DS 312-80

The new clutch pressure plate number is DS 312-0A







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### SERVICE BULLETIN #A-137

# MODEL: ID 19

### SUBJECT: MOTOR -Modification of the Crankshaft Oil Return Slinger.

The sealing of the motor block facing the gear box is accomplished by:

- an oil slinger longer than the type used previously.
- a new oil baffle.

#### PARTS:

Part Name	Old Number	New Number
Pair of oil baffles	DS 113-02	DS 113-02A
Crankshaft	DS 121-04 T	DS 121-04 Z

#### SERVICE:

1) Method of Assembly:

- The new oil baffle shells must be used only with the new crankshaft.

- The old baffle shells must be used only with the old crankshaft.

2) Method of Mounting the Oil Baffle Shells DS 113-02 A;

- Mount the upper half shell on the cylinder block and the lower half shell on the bearing cap (paper gaskets coated with hermetic).
- Catch the shell mounting screws without tightening them.
- Set in place the mandrel 1687 T.
- Mount the bearing cap and tighten the screws to 10 m.kg (72 ft.lbs).
- Tighten the half shell mating screws.
- Gradually, tighten the half shell mounting screws on the bearing cap and on the cylinder block.
- Dismount the bearing cap with the half shell and remove the mandrel 1687-T.
- Set the crankshaft in place.
- Coat with hermetic, the mating surfaces of the half shells and the support faces of the gaskets with cork pads under the bearing caps.
- Mount the bearing cap. Tighten the screws to 10 m.kg (72 ft. lbs).
- Tighten the half shell assembly screws.



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# SERVICE BULLETIN # A-140

MODELS : DS 21 - DS 19A \_ S.W. 21 - SW 19A

SUBJECT : MOTOR - Oil pump and filter

# DESCRIPTION:

The oil pump and filter housing form a unitized assemblywhich is mounted inside the crankcase. The lower section of the unit is submerged in oil.

FUNCTION:

The oil is drawn into the lower housing by the pump (1) through the wire screen (2) via the opening (a) in the metal cover (3)

It is pumped into the chamber (b) then, after passing through the filter cartridge (4), directed. to the oil circuit of the motor through the channel (c).

To enable development of maximum pressure for lubrication it is necessary that chamber (b) be perfectly leak tight. Accordingly, when mounting the cup (5) in place it must be correctly aligned and held by the assembly mounting screw (6). (See the Repair Manual No. 511 - Operation DX 220-3).

A calibrated valve (7) permits a limitation of the oil pressure.

In case the filter cartridge (4) becomes fouled a by-pass valve (8) will place in direct communication the chamber (b) with the channel (c) so that lubrication of the motor will not be stopped.

The breather hole (9) permits priming the after draining the motor.




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#### SERVICE BULLETIN # A-141

MODELS DS 21 - DS 19A - St. Wag. 21 - St. Wag. I9A

SUBJECT: MOTOR - Modification of the cylinder-block

The aluminum plug of the main oil gallery, located on the left side of the motor, has been replaced by a hexagon headed steel plug. The sealing of the block is accomplished by a copper gasket.

The cylinder block has a thin shell at the location of the plug.

## SERVICE

The cylinder blocks which do not have the shell at the plug location can only hold the aluminum plug.



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#### SERVICE BULLETIN #A-143

#### MODELS: DS 21 - DS 19a - SW 21 - SW 19a

SUBJECT MOTOR - Modification of the gasket between the cover of the water pump and the cylinder head.

The outer shape of the paper gasket between the water pump cover and the cylinder head is modified (see figure).

When the gasket is correctly mounted, the dark section represented on the figure should be apparent at the top and to the left of the water pump cover (seen from the front of the motor).

CAUTION: A gasket installed upside down will cause leakage of water at the lower part.

Note: The part number of the gasket has not been changed.





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#### SERVICE BULLETIN # A-144

#### MODELS: DS 21 - DS 19A - SW 21 - SW 19A

#### SUBJECT: MOTOR Modification of the Fuel Pump Push Rod

The fuel pump push rod of the above-mentioned vehicles is modified.

Three categories, according to length, supersede the two sizes of the old types. The reference grooves are larger than the former grooves.

PARTS: The Parts Department will deliver only the new push rods.

SERVICE: On replacement of a push rod, it is indispensable to determine its classification.

The Operation DX 173-1 of the Repair Manual No. 511 is replaced by the operation attached

REMOVAL.

- 1) Place the manual height control lever in "low" position. Remove the left front sphere
- 2) Uncouple the inlet and delivery tubes of the pump

Remove the nuts mounting the pump on the studs.



#### **REPLACMENT - Remarks**

a)The fuel tubes are mounted without collars.

b)There exists push rods of 3 different lengths:

- 1) 48.06 mm.long reference mark: 1 groove on the push rod.
- 2) 48.57 mm.long reference mark: 2 grooves on the push rod.
- 3) 49.08 mm long reference mark: 3 grooves on the push rod.

There is no reason for determining the length of a push rod on replacement of a pump. This operation is to be done if one verifies a poor feeding or after the replacement of an insulating spacer, a guide, a motor block or a motor.

- 3) Mount:
  - A new paper gasket,
    - the push rod guide (1),
    - the insulating block (2) (dished side faces the guide)
  - a push rod (3).

Mount the plate (A) (3087-T) on the pumpmounting studs

- Place the nuts (4), tighten to 2.2 2.8m.kg (16-20 ft.lbs) (washer under the nuts). Two cases present themselves:
  - 1) Turn the motor so as to bring the push rod (5) to its highest position.
- In this position, the push rod (5 must not extend beyond the plate (A) (at the maximum, it must be level) Check this with a straight edged rule.
  - 2) Turn the motor so as to bring the push rod to its lowest position.
- In this position, use the gauge (B of the tool assembly 3087-T. The greatest diameter must not enter the hole of the plate (A) when the end of the small diameter is up against the push rod.
- From the push rods sold by the Parts Department choose one which will meet these conditions.

Remove the plate (A).

Be sure the supporting surfaces of the insulating spacer are clean.

Coat with grease (special bearing grease) the drive lever.

4) Set the pump in place, catch the 2 nuts simultaneously.

Tighten the nuts to 2.1-2.8 m.kg (15-20 ft/lbs.)Attach the inlet and delivery tubes to the pump.

5) Mount the left front spheres

Place the car in "normal" driving position.



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## SERVICE BULLETIN # A-145

MODELS: DS 21 - DS 19a

SUBJECT: MOTOR - Control of the Accelerator and the Reclutching corrector

The plastic drive flange between the carburetor and the reclutching corrector has been modified



The legs of the reclutching corrector drive levers are shortened.

- The pull back springs of the accelerator control linkage are likewise modified; their free lengths have been lessened.
- NOTE: The modification of the accelerator pull back springs applies equally to the DS 21 and the DS 19a mechanicals.
- SERVICE: It is possible to apply this modification to earlier cars of these models by performing the operations indicated in the attached note MR 314-3.
- IMPORTANT: When exchanging the plastic drive flange it is imperative that the pull back springs also be replaced in order to obtain a correct return of the control linkage.

Name	Previous number	New number
Corrector drive flange	DX314-178	DX314-178A
Corrector control lever	DX314-161	DX314-161A
Accelerator control linkage return spring	DX 142-5	DX142-5B

#### PARTS



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REPLACEMENT OF THE DRIVE FLANGE DX 314-178 (with out a spring) BY THE DRIVE FLANGE DX 314-178a (with a spring)

Obtain the following new parts:

1- Drive flange connecting the carburetor to the reclutching corrector	DX314-178a	
1- Reclutching corrector control lever	DX 314-161a	
2- Accelerator control linkage return springs	DX 142-5b	

#### **REMOVAL:**

- Release the pressure in the brake circuits (see operation DX.00).
- 2) Disengage (see fig.1)
  - -The flexible fuel delivery tube (4) from the carburetor.
  - -The flexible air delivery tube (1) from the carburetor.
  - -The choke control cable (2).
  - -The connection (3) of the idling corrector fluid feed tube.
  - -The reclutching corrector control lever (6) from the drive shaft of the corrector
- 3) Disengage the throttle control on the carburetor
- 4) Remove the 4 nuts mounting the carburetor to the manifold (use the wrench 3081-T for the nuts toward the motor).
- 5) Remove the carburetor (see fig. 1)

-The reclutching corrector control lever (6). -The drive flange

#### **REPLACEMENT:**

- 6) Place the new corrector control lever on the drive shaft of the corrector.
- 7) Using a file, shorten the legs of the control lever (8) on the carburetor 1.5 mm leaving no trace of rough edges (see fig. 2).
- 8) Align the corrector (see figure 3).
- Replace the carburetor provided with its control lever. Replace and tighten the four mounting nuts. It is necessary that the shafts of the corrector and the carburetor be perfectly align with each other. To obtain this condition there are two adjustments:







- a) Adjustment of the elevation: Turn the shaft of the carburetor to bring the legs of the lever (8) in a horizontal plane. Do the same on the corrector by turning the lever on the shaft. Place adjusting shims between the corrector and the manifold, (DS 21) or vertically shift the corrector-support assembly (DS 19A) so that the legs of both levers are in one identical plane.
- b) Crosswise adjustment: Turn the carburetor shaft and the corrector control lever (7) so that the legs are vertical. Shift the corrector in the slot of the manifold (DS 21) or of the support (DS 19A) perpendicular to the motor so that the legs of the levers are in the same vertical plane. Replace and tighten the corrector nut (wrench 3107-T).
- 9) Adjust the corrector (see fig. 6). Remove the sealing plug from the adjustment hole. Engage the pin (A) in the hole. Turn the corrector shaft (1) in the direction of the arrow just to the joint where one feels the elastic resistance of a spring; go beyond this resistance to come to the stop. At that time turn the shaft backward approximately 30 degrees to completely drive in the pin (A).

Fig 3

10) Mount the new drive flange: Remove the carburetor and replace the accelerator linkage pull back springs (2) with the new ones (see figures 4 and 5).

Fig 6

Adjust the tension of the springs to obtain the dimension L=135 mm. (see fig.5).





- Push back the corrector control lever all the way toward the corrector and engage the drive flange (5) on the control lever (see figure 7).
- Mount the carburetor, spread a thin layer of sealing compound between the carburetor and its flange gasket. Replace and tighten the 4 nuts (flat washer and star washer), use the wrench 3081-T.
- Attach the throttle control. Set the accelerator control linkage in idling position. Engage the drive flange on the control lever of the carburetor.
- Allow at the drive flange, a lateral clearance of 0.5 mm (.020") and tighten the collar (6) of the corrector control lever. Remove the pin (A) and replace the sealing plug.

Fig 7

- NOTE: The carburetor and the corrector having been brought to the maximum opening permitted by the control the corrector having been held in this position, the carburetor must return to the total closing position. If not review the alignment (see paragraph 8).
  - 11) Reconnect (see figure 7)
    - The choke control (2).
    - The fluid feed tube (7) of the idling corrector.
    - The flexible fuel delivery tube (4).
    - The flexible air delivery tube (1).
  - 12) Adjust the idling (see operation DX 142-0).



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**CITROËN CARS CORPORATION** 

#### SERVICE BULLETIN # A-147

MODELS:DS 21 - DS 19A - S.W. 21 - S.W. 19A

### SUBJECT : MOTOR - Fuel pump

The push rod guide and the insulation block of the fuel pump are modified.

Holes drilled in these two pieces permit a circulation of oil in the pump.

#### PARTS

The new parts are interchangeable with the old parts on condition that the complete assembly of the insulation block and the push rod guide is changed.

#### SERVICE

In the event of mounting the new parts, the paragraph 3 of the operation DX 173-1 should be modified as follows:

3) Mount:

- The new paper gasket.
- The push rod guide (1), the side facing the insulation block covered with sealing compound.

The insulation block (2), the cupped side facing the guide. A push rod (3).

Mount the plate (A) (3087-T) on the studs for attaching the pump.

Mount the nuts (4) and tighten to 2,2 to 2,8 m.kg. (15-20 ft.lbs) (use a washer under the nuts).

- Turn the motor so as to bring the push rod (5) to its highest position. In this position the push rod (5) should not extend beyond the plate (A). At the maximum it should be "flush" with the surface of the plate. Check this with the help of a rule,
- 2) Turn the motor so as to bring the push rod to its lowest position, In this position, mount the gauge (B) (tool assembly 3087-T). When the extremity of the small diameter of the gauge is up against the push rod, the large diameter should not enter the hole of the plate (A).

Choose from the push rods sold by our Parts Department that which responds to these conditions.

Remove the plate (A).

Do not cover the fuel pump drive lever with grease. The grease risks blocking the oil return hole, Simply oil the lever and the push rod,

Cover the support face of the pump with sealing compound before mounting.

4) Bring the pump in position simultaneously catching both nuts. Tighten the nuts to 2.2 to 2.8 m.kg. (15-20 ft/lbs).

Attach the flexible suction and delivery tubes of the pump.



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### SERVICE BULLETIN # A-156

## MODELS : DS 21 DS 19A - S.W. 21 - S.W. 19A

SUBJECT : MOTOR - Connecting Rod Bearings

The connecting rod bearings of the above mentioned motors are modified.

The treatment of the connecting rod bearing Journals has also been modified. The crankshaft arms on both sides of the connecting rod Journals no~1onger have the appearance of being slightly blued.

#### PARTS

Con-rod Half Bearing	Old Part Number	New Part Number
Inside diameter - 54 mm.	N 121-9	DX 121-9b
- 53.5mm	DX 121-9	DX 121-9f

#### SERVICE:

The mounting of the bearings DX 121-9b or DX 121-9f is possible on an old crankshaft.

#### **IMPORTANT:**

## IN NO CASE SHOULD THE OLD TYPE BEARINGS BE MOUNTED WITH A NEW CRANKSHAFT.



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December 7, 1966

#### SERVICE BULLETIN # A/G-161

## MODELS: DS 21 (DX-DJ) - DS 19a (DY-DL) SW 21 (DJF)- SW I9a (DLF)

#### SUBJECT: IGNITION - Spark Plugs

Plugs suitable for the above mentioned models:

Models	MARCHAL_SEV	BOSCH	A.C.	CHAMPION	LODGE
DS 21 Normal use <sup>1</sup>	35/36	42FF	L87Y	2HN	
SW 21 Maxi use <sup>2</sup>	35B or GT34D	W225T1	42FF	L85	3HN
DS 19a Normal use <sup>1</sup>	35B	W225T1	42FF	L85	3HN
SW 19a Maxi use <sup>2</sup>	34S	W240T1	41FF		

1) This equipment is suitable during the "break-in" period and for normal driving in town and on the majority of roads.

2) This equipment is suitable for drivers who wish to profit to the maximum of their cars performance possibilities.



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December 13, 1966.

## SERVICE BULLETIN # A-165

MODELS: DS 2I(DX-DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19 a (DLF) / ID (DV)

SUBJECT: CLUTCHING - The Pressure Plate Assembly

The clutch pressure plate of the above-mentioned models has been modified.

The spring seats are slightly inclined.

The pressure plate springs are replaced by 9 pink colored springs instead of 6 purple and 3 green formerly used.

#### SERVTCE

The new pressure plate assembly is interchangeable with the old, the adjustment specification being unchanged.

When repairing. a pressure plate assembly, it is not possible to mount the new springs on the old type friction plate, nor the old type springs on the new friction plate.

The calibration of the new springs is as follows:

Reference	Length	Load
Pink	31mm (1.22")	59 +4/-0 kg. 130+9/-0 lbs



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December 9, 1966

## SERVICE BULLETIN # A/L-168 ALL MODELS

## SUBJECT: ADJUSTMENT OF THE IDLING

In order to reduce to a minimum the exhaust pollution of the engine, the idling must be adjusted properly at all times.

This adjustment should be done on a motor which is hot, but not excessively, and is in good running condition.

PROCEDURE

- 1) After the motor has been stopped, turn the idle mixture screw in to the bottom but without excessive effort. Turn out the throttle adjustment screw just enough to undo contact with the corresponding stop.
- 2) Models of all types:

Beginning from these positions, unscrew the idle mixture screw 2 to 2 l/2 turns. Turn in the throttle adjustment screw approximately 1/2 turn.

- 3) Start the motor, accelerating if necessary.
- 4) Bring the motor to the specified idling speed by turning the throttle adjustment screw.

The idling speeds for the different models are as follows:

AZA - AZAM - A/ZU - AW	650 +50 R.P.M.
AM - AMB	750 +50 R.P.M.
AK	650 +50 R.P.M.
DS 21 - DS I9a	550+ 50 R.P.M.
SW 21 - SW 19a	550 +50 R.P.M.
ID 19 a	550 +50 R.P.M.

(On models equipped with a centrifugal clutch bring the motor speed to the start of clutch engagement then turn out the throttle screw 1/8 turn)

- 5) Having reached this speed, find the maximum R.P.M. ratio attainable by manipulating the idle mixture screw.
- 6) Complete the operation by turning in the idle mixture screw so that a drop of speed occurs (10 20 r.p.m.) without hurting the steadiness of the idling. (Attention: for the AM and AMB refer to the Shop Repair Manual N 490 1965 Edition Operation AM 142-0, *page* 60 and plate 70).
- 7) If the final speed obtained is beyond tolerance, re-establish the speed required by turning the throttle screw and repeat the operations 5 and 6 above.



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December 19, 1966

## SERVICE: BULLETIN #A\_170 MODELS: DS 21 / DS 19a / SW 21 / SW 19a SUBJECT : IGNITION- Spark Plugs

- 1) The DS 21 Sedans (Mechanical and Hydraulic) and the Station Wagons 21 are originally equipped with SEV-MARCHAL 35/36 spark plugs.
- 2) The DS 19a Sedans (Mechanical and Hydrau1ic) and the Station Wagon 19a are equipped with SEV-MARCHAL 35b spark plugs.
- This equipment is suitable during the "break-in" period and for general use in town and country driving.
- For drivers who wish to take advantage at a maximum of the high performance of their cars (sustained high speed) you must advise the use of the spark plugs listed below:

For the DS 21 and Station Wagon 21: For the DS19a and Station Wagon 19a: SEV- MARCHAL 35b SEV-MARCHAL 34s

For corresponding spark plugs of other brands see Service Bulletin #A/G- 161.



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December 20, 1966

SERVICE BULLETIN # A-172 MODELS: DS 2I (DX DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19a (DLF)

### SUBJECT: MOTOR - Rocker Arm Assembly

The shafts of the exhaust rocker arms are modified. The holes for lubrication of the rocker arm journal now have a chamfer.

On the new shafts, the lubrication holes look slightly oval, whereas, on the older type shafts they appear round.

SERVICE: Only the new shafts are to be used.



New type





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#### January 16, 1967

#### SERVICE BULLETIN # A-175

### MODELS: DS 21(DX) - DS 21M(DJ) - SW 21(DJF)

#### SUBJECT: ENGINE - The Exhaust Manifolds

On the above-mentioned models, the bosses of the exhaust manifold flanges (cylinder head end) have been increased in thickness.

The studs, used to mount the new manifolds to the cylinder head, are longer.

PARTS	Name	Old Part No	New Part No
	Exhaust Manifold for No's 1 and 4 cylinder	2 N-181-104	DX 181-104
	Exhaust Manifold for NOS 2 and 3 cylinder	2N-181-105	DX 181-105
	Mounting Studs	616077	616103

#### SERVICE:

By inserting the longer studs on a cylinder head, it becomes possible to replace the old manifolds with the new type.

The Operation DX 180-1, of the Repair Manuals 518 or 527, is always valid. However the nuts and studs should be mounted with "Loctite" sealant grade AA.



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#### January 16, 1967

#### SERVICE BULLETIN # A-176

MODELS : DS 21 (DX- DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19a (DLF) / ID 19b (DV)

## SUBJECT: Engine - Oil Pump

On the above mentioned models, the screw and lock-nut, mounting the oil pump on the engine block are modified.

The diameter of the screw is decreased in front of the screw driver slot.

The lock-nut is replaced by a "Nylstop" nut.

#### PARTS-

Name	Old Part No	New Part No
Pump Mounting Screw	N 222-16	DX 222-16
Lock-nut	2370-S	615907

#### SERVICE -

- The paragraph 27 of the Operation DX 100-3 of the Repair Manuals 511 or 527 ("Fit the Oil pump") is modified.
- It is no longer necessary to coat sealant on the threads of the tapered screw, nor the lock-nut surface on the engine block.

#### Note:

- Installation of this new assembly on previous engines is possible on condition that the screw and the "Nylstop" lock-nut are put in replacement at the same time.
- -"Nylstop" lock-nut should not be used with the old type screw N 222-16 since this could damage the nylon locking-section of that nut.



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### SERVICE BULLETIN # A/B-177

MODELS: AMI-6 / AM - AMB

## SUBJECT: MOTOR

- The needle bearing centering the main shaft of the gear box in the rear journal of the crankshaft is replaced, on some of the above-mentioned models, by a self-lubricating bushing of porous bronze AM 121-100 (16x18x12mm) or AM 121-I00a (16x18.3x12mm).
- The sealing of the self-lubricating bushing is accomplished by a "PAULSTRA" ring AM 121-101 (4x18.2x11mm) or AM 121-101a (4x18.2x11mm).
- In order to receive this seal ring, the crankshaft has been modified (Part No AM 121-02 g). The depth of the bore seating the self-lubricating bearing is increased 6.5 mm(0.256").
- The main shaft of the gear box is also modified (Part NC AM 332-1f). Its length is increased 5.5 mm (0.2165") and the length of the ground portion (self-lubricated bushing journal) is increased to 6.25mm(0.246").

#### SERVICE

It is not possible to mount the self-lubricated bushings in crankshafts not modified.

It is not possible to mount the new main shaft in a gear box which is going to be coupled to a motor having a crankshaft equipped with a needle bearing.

Extraction of the self-lubricating bushing:

Use the extractor 1671-T as though pulling a needle bearing (see Plate 19 - Shop Repair Manual # 490 - 1965 Edition).

Mounting a self-lubricating bushing:

- Immerse the bushing in S.A.E. 20 oil for one hour at room temperature.
- Let it drain.
- Mount the bushing in the crankshaft using the mandrel 3052-T. This assures correct seating of the bushing 4.2 mm. (0.165") below the surface.
- Set the seal ring in place so that it bears against the bushing, the face carrying the reference and name of the manufacturer toward the outside.

Note: Be careful not to damage the seal ring when coupling the gear box to the motor housing.





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Feb 10, 1967

## SERVICE BULLETIN # A-183

## MODELS: DS 19a (DY) / DS I9Ma (DL) / SW 19a (DLF)

SUBJECT: ENGINE - Piston rings

The oil return piston ring, on the motors of the above mentioned models, are modified.

The new ring now has a thin steel expander.

PARTS:

PartOld numberNew numberOil return ring<br/>(86 x 5)3N-121- 15DV- 121-15

SERVICE:

An old type ring can be replaced by the new without any other modification.



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April 27, 1967

## SERVICE BULLTIN Nº A-190

## MODELS:DS 21 (DX-DJ) / DS 19 a (DY-DL) SW2I(DJF) / SWI9a(DLF) /ID 19b (DV)

## SUBJECT: Engine

The gasket materal of the cylinder head water jacket plates and the water pump (between the cover and the cylinder head) is now modified.

The old gaskets were colored white. The new gaskets are colored green.

PARTS:

Name	Old Part	New Part
Water jacket plate gasket	N 112-88	N 112-88a
Water pump cover gasket	N 112-81	N 112-81a

#### SERVICE:

It is essential to use only the new gaskets on repairs. They must be mounted DRY without any sealing product.



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May 3, 1967

## SERVICE BULLTIN Nº A-191

## MODELS: DS 21M (DJ) / DS 21 (DX) / SW 21 (DJF)

## SUBJECT: STARTER - Arrangement for lubricating the starter drive.

Some of the above mentioned models are now equipped with a starter drive lubricating device.

The front bearing of the starter (drive side) is modified (Fig. 1). It involves a supplementary drilled hole to which is fitted a metal oil delivery tube.





An oiler (Fig.2) is connected with the starter bearing metal tube by metal tube by means of flexiable piping which is fastened, by a plate, to the upper right of the water pump (Fig.3).



Fig. 3

The upper right stud for mounting the water pump is replaced by a longer stud (Fig.2).

#### PARTS:

Part	Old Number	New Number
Complete Ducellier starter	DX 533-Ole	DX 533-01p
Complete Paris-Rhone starter	DX 533-Olg	DX 533-01m
Ducellier starter bearing driver side hole	DX 533-3DX	533-3d (with driving side threaded6x100)
Paris-Rhone starter bearing- driving side	DX 533-3a	DX 533-3e (with hole threaded 6x100)
Rilsan connecting tube		D 393-2
Rubber connections joining the rilsan pipe with the oiler and bearing tubes (2 needed)		DX 533-106
Bearing tube (threaded 6x100) Oiler with support		DX 533-108 DX 533-105
Upper right water pump stud	616082	616105

## SERVICE:

It is possible to mount a new starter (or a new drive side starter bearing) on a vehicle not so equipped. It is possible to mount an oiler on an old engine on condition that the upper right water pump stud and the radiator tie-strap are replaced.

Lubrication period: Every 3000 miles.

Place a few drops of vaseline oil into the oiler: Immediately after, make the starter turn two or three times without the ignition, in a manner to permit the oil to drop on the helicoidal ramps of the starter drive.



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## May 4, 1967

## SERVICE BULLETIN N0 A-192

## MODELS:DS 21M (DJ) / DS I9Ma(DL) / SW 21(DJF) / SW 19 a (DLF) / ID 19b (Dv)

## SUBJECT: Declutching Linkage

The declutching linkage of the above-mentioned models is now modified.

## MODIFIED PARTS.

- 1) Push rod control lever.
- 2) Push rod.
- 3) Declutching fork adjustment screw.
- 4) Clutch housing: the angle of the hole which seats the end of the declutching cable housing is slightly modified.
- 5) Declutching cable: the length of the cable has been decreased 5mm.and the length of the cable housing increased 5mm.

#### PARTS

Part		
	Old Number	New Number
Push rod control lever		
	DV 314-33DV	314-33a
Declutching cable	DV 314-2b	DV 314-2d

SERVICE:

It is necessary to simultaneously change the cable and the push rod control lever if either one of these two older parts are replaced by a new one.

It is not necessary to modify the clutch housing.

After assembly of the new parts and adjustment of the linkage, check the clearance, in the declutched position, between the fork adjustment screw and the steering unit rubber boot. If this clearance is too little, reduce the head of the adjustment screw (See figures hereunder).

Adjustment specifications of the clutch linkage with the new assembly:

Height of the pedal, measured from the underside of the pedal pad and the floor board:

- All models except Pallas (pedal pad rubber removed): 142 +/- 1 mm (5.59" +/- 0.40")
- Pallas with rubber): 137 + -1 mm (5.39'' + -0.40)

Clearance between the end of the pus h road and the clutch housing: J 2.5 to 3.5 mm. (.098" -138")

Clutch clearance: J - J' = 1.6 to 2.4 mm (.063"-.095").

(See Operation DJ 314-0 of the Repair Manual Nº 527).





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## SERVICE BULLETIN # A-196

## MODELS: DS 21 (DXDJ) / DS I9Ma(DL) / SW 21 DJF) / SW 19a(DLF) / ID 19b (Dv)

#### SUBJECT: Exhaust Emission Control System.

All 1968 U.S. Models are equipped with an Exhaust Emission Control System as required by the "Clean Air Act", 42 U.S.C. 1857 et seg and 31 FR 5170, 45 CFR Pt 85.00. Each model has been homologated and duly certified by the Department of Health, Education and Welfare.

#### PURPOSE:

In order to suppress most of the carbon monoxide and unburnt hydrocarbons, which are a main cause of air pollution, air is injected at the exhaust valve ports (where the temperature is very high) to oxidize these gases in the exhaust manifold.

PRINCIPLE OF OPERATION (Refer to Fig.1)

- An air pump (1, fig. 1) sucks air from the flexible molded tube between the air filter and the carburetor. The pump drives the air to an air distributor plate (2, fig. 2) located between the exhaust manifold and the cylinder head. By means of injectors (3, fig. 2), the air is sent into the exhaust ports of the cylinder head, underneath the exhaust valves. A check valve (2, fig. 1) is mounted in the air delivery circuit between the pump and the air distributor.
- A "gulp' valve (3, fig. 1) is tapped into the air circuit feeding the air injectors. This valve controlled by the variations of depression existing in the intake manifold, permits, at certain moments injecting air into the intake manifold.
- The gulp valve contains a pierced diaphragm which forms a dash-pot. One side of the diaphragm is subject to the depression existing in the intake manifold. The other side encloses a chamber containing a spring and a slide valve, which opens or closes an air passage. When the carburetor throttle valve closes (deceleration), the vacuum increases in the intake manifold. This draws the diaphragm, thus moving the slide valve opening the air passage to the intake manifold. When the pressure equalizes itself on both sides of the diaphragm (through. the pierced hole), the spring moves the valve back, closing the air passage to the intake manifold.
- The carburetor carries a dash pot (4, fig. 1) used to avoid too rapid a closing of the throttle valve which would cause a slight backfiring from the exhaust.
- On the DJ, DJF, DL and DLF models, the carburetor carries, in addition, an accelerated idling device similar to those mounted on the DX.





-Air Pump (1)

-Air distributor plate (2) located between the exhaust manifold and the cylinder head.

-Air injectors (3) mounted in the cylinder head. (Inject air beneath the heads of the exhaust valves).

-Check valve (4) on the air delivery tube of the air distributor plate.

-Gulp valve (5) permitting injection of air into the intake manifold at the moment of deceleration.

-The 11T" connection (6), connecting the gulp valve to the air delivery circuit4

-The air pump support bracket (7).

-A gasket (8) located between the air distributor plate and the cylinder head.

-A gasket (9) located between the flange of the delivery tube and the air distributor plate.

Various flexible connection hoses.

#### SERVICE -

It is not possible to mount the exhaust emission control system on older models.

Adjustment of the Idling Speeds and the Clutch Engagement Speed.

Important: The specifications given below must be respected inorder to assure correct functioning of the system.

Normal Idling: DX- DJ- DJF- DL-DLF- DV 750 +/- 25 R.P.M.

Note: For the DL- DLF and DV models see the procedure below.

Accelerated Idling: DX-DJ-DJF-DL-DLF 1025 +/- 25 R.P.M.

Clutch Engagement Speed DX 925 +/- 25 R.P.M.

PROCEDURE:

a) Normal Idling:

- 1. Warm up the motor.
- 2. Adjustment of the normal idling:

2.1 On all models except the DV, turn the accelerated idling screw to the bottom without forcing it.

Note: The DV model is not equipped with an accelerated idling device.

2.2 For the DX-DJ-DJF: Adjust the normal idling to its specified speed of 750 R.P.M. by working always toward an increase in the speed. For example:

2.2.1 Adjust the idling to 600 R.P.M. without any particular precautions.

2.2.2 Turn the throttle screw to obtain approximately 650 R.P.M.

- 2.2.3 Turn the idle mixture screw to the value giving the best speed.
- 2.2.4 Re-adjust the throttle screw to obtain approximately 700 R.P.M.
- 2.2.5 Turn out the idle mixture screw in order to have the best speed.
- 2.2.6 Turn the throttle screw to raise the speed to 725 R.P.M. Turn out the idle mixture screw to be at the best speed.
- 2.2.7 During the course of the adjustment if the idling speed exceeds the tolerance, freely turn the screws back and repeat the adjustment in such a way as to finish by an increase of speed corresponding to an opening to the throttle and an opening of the idle mixture screw. Never finish the adjustment by decreasing the speed or "leaning" the mixture.
- 2.3 For the DL- DLF- DV models:
- Bring the idle speed to 775 +/- 25 RPM by means of the throttle screw. With each movement of the throttle screw, manipulate the idle mixture screw to obtain the best possible speed. Eventually, bring the idling speed to 775 +/- 25 RPM Then reduce the speed 25 RPM by slightly opening the idle mixture screw.
- b) Accelerated Idling: DX-DJ-DJF DL DLF Adjust as usual at 1025 +/- 25 RPM

c) Adjustment of the Dash Pot on the Carburetor. Tools necessary : Tachometer, Stop Watch.

This operation should be done after the idling adjustments

- Connect a tachometer to the motor.
- Stabilize the motor speeds at a fixed point of 3000 RPM, then suddenly release the accelerator and apply the brakes.
- The time taken by the motor to pass from 2500 RPM to 1000 rpm should be between 3 and 5 seconds.

New Parts (Fig. 2)

- If necessary, in order to obtain this condition, adjust the position of the dash pot and the tension of the accelerator springs.

Note: If it is necessary to install a new dash-pot. Screw the dash-pot into its support bracket. Bring it into contact with the movable lever of the carburetor throttle arm and continue to move it in the same direction just to the point where the idling speed tends to increase. Lock the dash-pot at this point and perform the above mentioned adjustment.

## MODIFIED PARTS.

- Cylinder head: supplementary bosses used for mounting the air injectors.
- Exhaust Manifolds: DX DJ DJF These carry a metal shield to assure protection to the chassis units on the right side.
- Carburetor: On the DJ-DJF-DL and DLF Models: Mounting of an accelerated idling unit similar to that used on the DX.

On the DV: Replacement of the idling jet by a jet with a "damper".

On all models, a dash-pot slowly returns the accelerator linkage to the idling position. An air intake permits control of the gulp valve.

Intake Manifold:

This has a supplementary port for the injection of air at the moment of deacceleration.

- Water Pump and Alternator Belts: One of the two belts is longer than the other and serves to drive the air pump.

Motor Fly Wheel: The ignition timing mark is located at 0°

- Ignition: The advance curve is modified (see the graphs attached).
- -Flexible Tube between the Air Filter and the Carburetor: Caries a connection in order to feed the air pump.

-Right Half Axle: Upper rear mounting screw replaced by a hexagon socket (Allen) screw.

IMPORTANT ADVICE:

- The exhaust Emission Control system is installed on the vehicle in order to reduce the pollution in the atmosphere. Part of the "Clean Air Act, Title II specifies that it is prohibited "for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title ...".
- Consequently we recommend that you follow exactly the above practice and do observe the prescription of the law.







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September 8, 1967

## SERVICE BULLETIN No A-197

## MODELS: DS 21 (DX-DJ) S.W. 21 (DJF)

# SUBJECT: STARTER - Rear Mounting The rear mounting of~the starter on the above mentioned models is modified.

The motor block is modified: a boss, fitted with a stud, is now. used for fastening the starter mounting collar.

PARTS -

Spacer Stud DX 533-92 616110

SERVICE-

The new rear mounting can not be adapted to the motor blocks not having the boss.

The operation for removing and replacing the starter is unchanged.

Former rear mounting








20 WEST END AVENUE NEW YORK 23, NEW YORK JUdson 2-5920

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### December 27, 1967

## SERVICE BULLETIN Nº A-200

## MODELS:DS 21 (DX-DJ) / DS I9a (DY-DL) / SW 21 (DJF) / S 19a (DLF) / ID 19b (Dv)

SUBJECT: Delivery of fuel

The filter of the fuel tank suction tube is now modified.

The washers comprising the new filtering cartridge are of brass.

The drain plug seal ring is of a plastic material.

#### PARTS:

Name	Old part No	New part No	
Filter cartridge with drain plug	DX 175-20a		
Drain plug seal ring DX I75-46a	DX 175-46b		
Filtercartridge		DX178-88a	
Drain plug only		DX 175-14	





## SERVICE -

The new cartridge and the new seal are interchangeable with the old parts. Below, is a method of checking the fuel feed.

I) Checking the delivery of fuel to the carburetor.

Disconnect the rubber hose at the intake tube of the carburetor. With the ignition "cut-out", turn the motor, either with the help of the starter or the hand crank.

- 1. If the fuel spurts from the hose, it is possible the fuel delivery is not deficient. Check the carburetor, in particular:
- A) the filter at the entrance of the carburetor (crushed or blocked).
- B) the needle valve (jammed closed): with the help of a screw driver handle tap a short, sharp blow on the carburetor cover near the needle valve. This is usually sufficient to free the valve.
- C) the jets (obstructed).
- 2) If no fuel comes from the hose:
  - A) Check that the hose between the fuel pump and the carburetor is not blocked.
  - B) Check whether the tank has fuel
- An inclined sheet metal deflector sealed at the bottom of the tank permits maintaining a certain reserve of fuel in the right section of the tank (side of the suction tube nozzle). In normal circulation, by the sway of the car, the fuel passes from the left side to the right side but cannot return to the left side. If the car has been idling for some time with a low fuel level in the reservoir, it is possible to use up the reserve (right side of the tank) and have fuel in the left side-of the tank. This case mainly occurs when the car is left idling while leaning to the left.
  - C) Connect the inlet of the pump to an auxiliary tank. If the fuel does not spurt by turning the motor:
    - a) Check the fuel pump push rod.
    - b) Make a test with another pump.

If the fuel spurts:

- a) Check the fuel filter
  - drain the fuel tank.
  - if the feed circuit is functioning, it is possible to apply the instructions given in supplement No 1, or feed the carburetor by means of a small tank while collecting the fuel from the outlet of the pump.
  - if the feed circuit is not functioning, remove the right drain plug from the tank.
  - remove the filter from the drain plug.
  - swish the filter in clean gasoline and dry it with compressed air, blowing from the inside of the filter toward the outside.



Note: If the old type filter (plastic washers) is warped and causes blockage of the fuel feed, replace it with the new type filter having brass washers.

Do not remove any washer from the cartridge. This will cancel its filtering ability.

b) Check the suction tube nozzle.

The end of this tube should be cut on a level and must not extend from the fuel tank once the plug is removed in order to prevent blockage of the tube by the bottom of the drain plug.

c) Check the connecting lines. These should be neither porous nor pinched, nor should they permit the intake of air.

FAILURE OF FUEL DELIVERY OCCURRING AFTER DRIVING A CERTAIN LENGTH OF TIME:

- Check the tank air breather tube for possible obstruction.

If necessary, make a test with a drilled filler cap (of the 2 CV or 3 CV type). Do not drill the permanent filler cap, dust would enter the fuel tank and one would notice gas odor inside the car.

- Check whether the filter in the tank is not partially crushed : for cleaning:

- remove the filter from the drain plug.

- swish the filter in clean gasoline and dry by blowing compressed air from inside the filter toward the outside.

FAILURE OF FUEL DELIVERY AFTER A STOP AT VERY LOW TEMPERATURES (WINTER).

It is possible that ice will form in the bottom of the drain plug, under the nozzle of the ~ction tube:

- remove the plug and the filter to get rid of the ice.

To completely eliminate water in the fuel circuit, it is possible to apply the instructions given in supplement N<sup>o</sup> 2. This operation can furthermore be applied at the beginning of each cold season, to the cars destined to be operated in cold areas.

## DRAINING THE FUEL TANK

Obtain:

- 1 "T" connection DS 391-148
- 1 Rubber hoze
- 1 Rubber hose
- 1 Jerry can

Assembly of the Draining Apparatus

1) Disconnect the rubber feed tube at the carburetor.

2) Assemble the above parts as illustrated below.



- 3) Start the motor: use the choke as little as possible.
- 4) Make the car lean toward the right: raise the car on the left side with a floor jack and the support 2505-T.
- 5) Let the motor run at idle until it stops by itself. Do not accelerate because the fuel feed to the carburetor is insufficient.

Disassembly of the Draining Apparatus

- 6) Separate the "T" connector from the rubber delivery hose of the fuel pump and remove the assembly of the "T" connector and the auxiliary hose from the carburetor.
- 7) Engage the rubber delivery hose from the fuel pump all the way onto the intake tube of the carburetor.

ELIMINATION OF WATER IN THE FUEL TANK

- 1) Warm the motor by running the car a few miles. Be sure the tank has at least 2 1/2 gallons of gas.
- 2) Pour 2 quarts of alcohol into the tank.
- 3) Drive the car sufficiently to consume at least 3 quarts of fuel and remove the mixture of water-alcohol which has collected in the tank. During this driving, a momentary weakening of motor power will become apparent due to poor carburetion. In this event, pull the choke half way and push it back when the motor returns to normal.
- 4) Refill the fuel tank.

#### NOTES:

- 1 -It is possible, instead of consuming the mixture while driving, to remove it by means of the fuel pump. Disconnect the delivery hose at the carburetor and run the motor with an auxiliary tank connected to the carburetor. But, there is no benefit from continued mixing caused by the sway of the car, and the carburetor, not being fed by acohol, is not rid of the water which it can contain.
- 2 -To avoid water condensation, it is recommended to keep the tank full.



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960 NORTH LA BREA LOS ANGELES 38, CALIF. OLdfield 6-6610

0ecember 14, 1967

#### SERVICE BULLETIN Nº A-203

MODELS: DS2I (DX-DJ) / DS 19a (DY-DL) SW 21a (DJF) / SW 19a (DLF) / ID 19 b (Dv)

SUBJECT: MOTOR - Air Filter

The air filter mounted on the above mentioned models can indifferently be either of two brands, the M.I.O.M. filter or the LAUTRETTE filter.

The M.I.O.M. filter is of a rose-grey color.



PARTS_		
TANIO-	Name	Number
	M.I.O.M.Air Filter	DX 171-0
	Filter cartridge for the M.I.O.M. Filter	DX 171-5
	LAUTRETTE Filter (with support)	DX 171-0b
	Filter cartridge for the LAUTRETTE Filter	DX 171-5a

The LAUTRETTE filter is colored black and three silent- blocs are interposed between the filter and its support which, consequently is modified.



LAUTRETTE filter with its support



Details of mounting the LAUTRETTE filter on its support.

SERVTCE - The two complete filters are interchangeable on condition the supports are equally replaced.

The filter and the cartridge being matched it is necessary that the filtering cartridge mounted be of the same brand as the filter.





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December 26, 1967

SERVICE BULLETIN No A-205

# MODELS: DS 21 (DX-DJ) / DS 19a (DY-DL)

## SW 21(DJF) / SW 19a (DLF) / ID 19b (Dv)

SUBJECT: MOTOR - Cylinder Head

A washer has been added under the heads of the cylinder head bolts tightening the exhaust side of the cylinder head.

The exhaust side head bolts are now elongated 11.45 mm (4.508) under the head instead of 111.5 mm (4.39").

PARTS:

Name	Old number	New number
Cylinder head bolt	N 112-4	DX 112-4
Washer (21x 10.3x 3)		DX 112-69

## SERVICE -

The washers, under the heads of the bolts, can be used on earlier models on condition the new head bolts are also used.

## Important Note:

The head bolt torque remains unchanged; 6 +0.5/-0 mkg) (43.5 ft/lbs). See Operation DX 100-3, paragraph 33 of the Shop Repair Manual N<sup>o</sup> 527.



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December 26, 1967

## SERVICE BULLETIN No A-208

## MODELS: DS 19a (DY-DL) / SW 19a (DLF) / ID 19b (Dv)

SUBJECT: MOTOR - Exhaust manifold; Mounting on the cylinder head

The exhaust manifolds of the above mertioned models are modified.

- a) the thickness of the manifold mounting lugs is increased.
- b) the length of the manifold mounting studs is increased.
- PARTS:

Name	Old number	New number
Exhaust manifold: 108 mm between port center-lines (DY-DLDV)	3N 181-81	DV 181-81
Stud: 8x38,5 (2 threads 13.5mm. long)for mounting the manifold		616077
Stud: 8x42.5 (2 threads 13,5 mm. long for mounting the manifold		616103

#### SERVICE -

The new exhauat manifolds are interchangeable with the old provided the new longer studs, part No 616-103, are also installed.

See Operation DX 180-1 of the Shop Repair Manual No 527 and the Service Bulletin No A-175.



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December 27, 1967

## SERVICE BULLETIN No A-210

## MODELS: DS 21 (DX-DJ) / SW 21 (DJF)

SUBJECT: MOTOR - The cylinder head

Some of the engines on the above mentioned models are equipped with:

Seals on the stems of the intake and exhaust valves

- the valve gides are modified in order to seat these seals.
- Modified intake valves: the clamping of the valve keys is accomplished by three grooves (similar to those of the exhaust valves).

PARTS:

Name	Old number	New number
Intake valve - 47 mm dia. - 115 mm L.	2N 124-7	DX 124-7
Upper cap of the intake valve spring - 312 mm dia.	DX 124-26	DX 124-26b
Intake valve keys	A 124-18	AM 124-18
Package of valve stem seals		DX 124-63

#### SERVICE-

In case of exchanging a cylinder head on a motor equipped with seals on the valve stems, use a standard cylinder head on which the guides will have been machined to receive the seals.



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#### December 27, 1967

#### SERVICE BULLETIN No A-213

## MODELS: DS 21 (DX-DJ) / DS I9a (DY-DL) / SW 21 (DJF) / SW 19a (DLF) / ID 19b (Dv)

### SUBJECT: MOTOR - Oil circuit

An oil pressure mano-switch is now mounted on the above-mentioned models.

The generator charging indicator is replaced by a double signal light: the upper part is the charging signal and the lower part is the oil pressure signal.

The motor block is modified to permit the mounting of a support for the pressure switch. The sealing between the pressure switch sup port and the motor block is accomplished by an ring seal.

The upper rear attachment of the pressure regulator support is modified so as to obtain a sufficient guaranty of support for the pressure switch "O"Ring seal for the manoswitch support

Name	Old number	New number
Motor block (DS 21)	2N 114-5	DX 114-5a
Motor block (DS 19a/ID 19b)	3N 114-5	DV 114-Sa
Mano-switch support		DX 614-98
"O"Ring seal for the mano		
switch support		5032-S
"0" Ring seal for the mano		
switch on the support		A 453-72
Oil pressure mano-switch		DX 614-6
Pressure regulator support		2N 391-52 2N 391-52
Battery charging signal		
(without bulb)		DW 532-10a
Two-function signal (charging		
and oil pressure)		
DX-DJ-DY-DL		DX 521-5a
DJF-DLF-DV		DV 521-5
Bulb for signal		706715 706748

PARTS

## SERVICE-

The motor oil pressure mano-switch cannot be mounted on motor blocks not carrying the necessary machining boss.



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## SERVICE BULLETIN # A-216

## MODELS: DS 21 (DX-DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19a (DLF) / ID 19b(DV)

## SUBJECT: MOTOR - Oil Inspection Plate

The oil pan inspection plate is now modified on the above mentioned models:

- a reinforcement ring is placed under the mounting screws on the oil pan.,

- the inspection plate mounting screws are elongated 2 mm. (.08").

#### PARTS:

Name	Old Number	New Number
Oil pan inspection plate	2N 223-68	DX 223-96
Plate mounting screws (8 required)	480-S(7x14)	483-S (7x16)

## SERVTCE-

The new oil pan inspection plate is interchangeable with the old on condition the mounting screws 480-S are replaced by the screws 483-S.



# SERVICE BULLETIN # A-218 MODELS: DS 21(DX-DJ) / SW2I(DJF)

JUdson 2-5920

OLdfield 6-6610

## SUBJECT: MOTOR - Piston Rings

The oil return rings with expanders are now modified: the coil spring expander is replaced by a laminated spring expander.



#### PARTS

Name	Old Part Number	New Part Number
Oil return ring with expander	DX 121-15	N 121-15

#### SERVICE-

It is possible to mount the oil return rings N 121-15 on the pistons of earlier motors.

#### Assembly

-Place the gap of the expander in line with the wrist pin (opposite the oil return slot).

-Mount the ring with the manufacturer reference mark toward the top of the piston.

-Turn the gap of the oil scraper ring 180° opposite the gap of the oil return ring.



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## February 28, 1968

### SERVICE BULLETIN No A-219

## MODELS: DS 21 (DX-DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19a (DLF) / ID 19b (Dv)

## SUBJECT: MOTOR - Cylinder Head

The total length of the studs fastening the cover the water pump has been increased 4 mm (.157"), 2 mm (.078") for each of the threaded sections].

Consequently, the thickness of the interior bosses of the cylinder head has been increased.

PARTS:

Name	Old Number	New Number
Water pump cover mounting stud	616083	616505
(5 required)	(8x34.25)	(8x38.25)

SERVICE-

There is no advantage in using the new studs on older cylinder heads.

The Parts Department will continue to sell the old studs (616083).



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February 28, 1968

SERVICE BULLETIN # A-220 MODELS:DS 21 (DX-DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19a (DLF) / ID 19b (Dv)

SUBJECT: MOTOR - Clutch Housing Closure Plate

A metal plate closing the clutch housing is fastened by three screws at the rear of the motor oil pan. The oil pan is modified : three supplementary bosses with threaded holes permit mounting the plate. Three rubber plugs assure contact between the closure plate and the lower section of the clutch housing.



Name	Old Number	New Number
Aluminum Oil Pan	2N 132-5	2N 132-5
Metal clutch housing plate with eyelets		DX 132-100
Rubber eyelet (3 required)		1059-S
Plate mounting screws (3 required)		482-S
Star washer (3 required)		2514-S

#### SERVICE-

On cars produced before the 1968 models, it is not possible to mount the closure plate without changing the oil pan as well.



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#### 5-24-68

### SERVICE BULLETIN No. A-225

## MODELS: DS I9a (DY-DL) / SW I9a (DLF)

#### SUBJECT: MOTOR - Connecting Rods and Bearings

The connecting rod, the connecting rod bearings and the piston pin bushing are modified on a certain number of motors. The strut of the connecting rod is drilled in order to permit feeding of oil under pressure to the piston pin bushing. The piston pin bushing carries a groove to enable lubrication of the pin and spraying the bottom of the piston.

The connecting rod bearings are drilled with a hole 2 mm (.08") in diameter, to assure the distribution of oil into the rod. (The bearing seated in the rod cap is identical to that seated in the rod).



#### PARTS

NAME	OLD PART NUMBER	NEW PART NUMBER
Connecting rod for 54 mm bearing	N 121-012	N 121-01
Piston pin bushing Connecting rod bearing (4)Length 24.5 mm Bore 54 mm (1st possibility)	N 121-2 DX 121-019b	DX 121-2a DX 121-019d
Connecting rod bearing (4) Length 24.5 mm Bore = 53.5 mm (2nd possibility)	DX 121-019c	DX 121-019g

#### SERVICE:

The new connecting rods are interchangeable with the old on condition the new drilled rod bearings are also used.

## **IMPORTANT:**

The assembly of the drilled rod bearings on the new connecting rods is absolutely imperative, otherwise the lubrication of the piston pin will not be assured.

## NOTES:

- 1- When disassembling a motor, never mark the rods by hitting them with a prick punch or using steel numbers, the bore of the big end of the rod can be deformed. (See the Shop Repair Manual N° 544 Operation DX 100-3, paragraph 7).
- 2-The Parts Department sells the connecting rods in sets of four matched by weight. To obtain a good balance of the motor, it is necessary to change the four rods at the same time.



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## 5-13-68

## SERVICE BULLETIN No. A-230

MODELS: DS 21 (DX-DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19a (DLF) / ID 19b (Dv)

## SUBJECT: MOTOR - Oil Filler Cap

The oil filler cap is connected by a plastic wire to the front screw post fastening the rocker arm cover.

#### PARTS

NAME	OLD PART No.	NEW PART No.
Oil filler cap	DS 132-81	DX 132-81a



#### SERVICE

The new oil filler cap equipped with the retaining wire is interchangeable with the old cap. On the DY-DL-DLF models, the front fastening screw of the rocker arm cover should be replaced by the screw post DX 132-77, already used on the DX-DJ and DJF models.



**SERVICE BULLETIN A-232** 

JUdson 2-5920

OLdfield 6-6610

MODELS: DS 21 (DX-DJ) / DS 19a (DY-DL) / SW 21 (DJF) / SW 19a (DLF) / ID 19b (Dv)

SUBJECT: MOTOR - Cooling system air duct

The method of fastening the flexible air duct frame to the radiator is modified in order to achieve a faster mounting (see figure).

#### PARTS

NAME	OLD PART N°	NEW PART N°
Flexible radiator duct	DX 242-149b	DX 242-49c
Speed clip (2 required)		DX 242-42

#### SERVICE

In order to uncouple the flexible duct from the radiator, do the following

- Loosen the four mounting screws of the duct
- Remove the two speed clips from the right side
- Disengage the frame of the duct from the mounting screws.





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#### December 23, 1968.

#### SERVICE BULLETIN # A245

# MODELS: DS-2I (DX-DJ) / DS-20 (DY-DL) / SW-21 (DXF-DJF) / SW-20 (DYF-DLF) / ID-20 (DT) / ID-19b (Dv)

#### SUBJECT: MOTOR - Motor Block (Oil Pressure Sending Unit)

The motor block is now modified so as to permit mounting the oil pressure sending unit directly on the block. The sending unit clamp (DX-614-98), the seal gasket (5032-S), the two washers (2154-SZ) and the two nuts (2498-SZ) are eliminated.

The sending unit has not been modified.

#### SERVICE:

The new motor block is interchangeable with the old type.

In case ot replacment ot an old motor block with a new one, mount the sending unit directly on the block with out using the clamp.



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## April 23, 1969

#### SERVICE BULLETIN # A/J-249

# MODELS: AMI-6 / AMB 2 / AKB DYAN: AYA / AYA 2 / AYA 3 - AYB 2 CV: AZA / AZU

#### SUBJECT: MOTOR - IGNITION CIRCUIT

After October 1968, the distributors mounted on the motors of the above models are modified. The distributor box, the condenser and the breaker points are modified. The terminals are protected by a ferrule of plastic material.

A gasket is interposed between the cover and the housing.

The wire connecting the coil to the distributor is modified; its flat eye terminal at the distributor end is replaced by a flat female terminal.

Old Assembly New Assembly Ne

#### PARTS:

Name	Part No.	New Part No.
Distributor complete		AZ 211-05
Distributor cover gasket		AZ211-116
Distributor housing	A 211-2	
Condenser	A 211-8	AZ211-8
Distributor housing cover	A 211-9	AZ211-9
Breaker point set-complete	A 211-17	AZ211-17

SERVICE:

It is possible to mount the new comp1ete distributor on the motors of models produced earlier. It is not possible to mount the new condenser and the new breaker points on an old distributor housing.



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April 23, 1969

SERVICE BULLETIN # A/J 250

# MODELS: AMI-6 / AM 2 / AMB 2 DYANE: AYB 2 cv: AKB

## SUBJECT: MOTOR: LUBRICATION - OIL CIRCULATION

After October 1968, a paper gasket AM-222-17 is interposed between the motor block and the body of the oil pump. The 10 mm hexagon bolts A-222-8 fastening the cover of the oil pump are replaced by 12 mm hexagon bolts, part no. 485-s.

#### SERVICE:

- It is reccomended to mount the gasket, AN-222-17, on the motors produced between September 1968 and October 1968 on which a leakage of oil will have been discovered between the motor block and the pump body or between the pump body and the cover.
  - Remove the cover of the oil pump.
  - Disengage the oil pump body and clean it. (avoid any trace of tool marks or deformation)
  - Check whether the alignment of the two halves forming the motor block is within a tolerance of 0.05 mm (.002"). If not separate the two halves and effect their sealing by coating the surfaces of the seam with mastic. Align the two half-blocks by drawing up the body of the pump before locking the screws assembing the motor block.
  - Mount the pump body by inserting (between the pump body and the motor block) the paper gasket AM 222-17.
  - This should be mounted dry (adhere the gasket to the pump body by a few touches of grease in order to avoid damaging the gasket on assembly).
  - Mount the pump cover (use mastic on the surface of the seam).
  - Tighten the mounting screws 485-S to 1.3 mkg, (9.5 ft/lbs).