2.C.10.

COMPRESSOR AND CLUTCH

BENTLEY S.2. SILVER CLOUD II PHANTOM V.

A clip for supporting the clutch cable is now being fitted to the compressor.

The clip is attached to a stud which has been screwed into one of the side mounting holes which are not used.

Displaced		New
UE.8268	Compressor	UE.9547
	Stud Stepped	UE.9528
	Clip Compressor	UD.3364

HEATING

BENTLEY S.2. SILVER CLOUD II

STANDARD STEEL CARS & MULLINER COUPE

An improved system of ducting recirculatory air to the rear seats has recently been introduced.

The present duct runs down the lower half of the A post on the left hand side of the car. It has been discarded in favour of a new duct which branches from the centre of the cross duct down to the floor. A cover, secured to the floor by screws, conveys the air from this duct to a point at the rear of the front seat in the centre of the car.

A larger capacity blower and an air intake formed entirely of expanded metal ensures an improved flow of air. A skirt screwed on to the valance of the right hand seat screens the duct from view, since carpet can no longer be used for this purpose.

The control cover, or duct, has to pass under the centre of the bench seat and it has been necessary to reposition the seat adjusting lever to accommodate it. This has been accomplished by reversing the lever so that the handle protrudes through the centre of the valance upwards instead of beneath it downwards. A chrome plated escutcheon surrounds the hole. The revised position of the lever relative to the catches make longer operating wires necessary; it also involves some small changes to the lightening holes to clear fouls. All the above changes apply equally to individual seats when these are fitted.

In addition to this the opportunity has been taken to modify the backs of the seats so that space can be provided for footrests.

Any parts of the seat frame which formerly passed across the apertures have been removed, additional strengthening has been incorporated elsewhere as necessary. The torsion springs controlling the seat backs have been replaced by pairs of coil springs.

The seat hinge arms have been replaced by shorter arms having the spring attachment lever welded to them.

A section has been cut out of the rear of the facia picnic tray to clear the central duct branching from the cross duct.

Only the complete seat assemblies can be considered interchangeable.

Blower housing UD.5894, not UD.5895, can be used for all replacements of UD.6130.

Part numbers are as follows :-

Displaced		New
UW.2392	Assy, seat back, RH) Mulliner Coupe	UW.2570
UW.2393	Assy, seat back, LH)	UW.2569
UW.2257	Assy, seat back, RH, front seat	UW.2482
UW.2256	Assy. seat back, LH, front seat	UW.2483
UB.3637	Assy, front seat complete LH (Individual)	UB.3747
UB.3638	Assy, front seat complete RH (Individual)	UB.3748
UB.3618	Assy, front seat complete (Bench)	UB.3727
UB.3703	General Assy, frame (Bench)	UB.3803
UB.3752	Assy, frame, front seat, RH (Individual)	UB.3806
UB.3751	Assy, frame, front seat, LH (Individual)	UB.3807
UB.3607	Assy, frame & mechanism, LH (Individual)	UB.3749
UB.3608	Assy, frame & Mechanism. RH (Individual)	UB.3750
UB.3590	Assy, frame & mechanism (Bench)	UB.3728
UB.3725	Assy, hinge arm, lower, LH) Bench and	UB.3799
UB.3724	Assy, hinge arm, lower, RH) Individual	UB.3800
UB.3630	Assy, hinge arm, lower. LH) Mulliner	UB.3805
UB.3631	Assy, hinge arm, lower, RH) Coupe	UB.3804
UB.1655	Spring case, front seat cushion (Bench)	UB.3778
UB.2095	Spring Case, front seat cushion, LH) Indi-	UB.3779
UB.2096	Spring case, front seat cushion, RH) vidual.	UB.3780
	Assy, lever, rake adjustment, LH) Mulliner	UB.3771
	Assy, lever, rake adjustment, RH) Coupe	UB.3772
UB.3573	Assy, handle, seat slides (Bench)	UB.3788
UB.3681	Adjustable mounting bracket, footrest, LH	UB.3801
UB.3682	Adjustable mounting bracket, footrest, RH	UB.3802
	Adjustable mounting bracket, footrest	UB.3687
	Adjustable mounting bracket, footrest	UB.3688
	Footrest, front seat back, RH	UW.2494
	Footrest, front seat back, LH	UW.2495
UB.2005	Assy, quadrant, LH	UB.3707

Displaced		New
UB.2006	Assy, quadrant, RH	UB.3708
UB.1515	Torsion bar, LH	
UB.1575	Torsion bar, RH	
UB.1586	Washer, torsion bar	
K.4602/Z	Split pin, torsion bar	
	Springs, rake adjustment	UB.3692
	Screw, footrest to frame	CS.31363/Z
	Setscrew, adjustable mounting bracket to channel	UA.1501/Z
	Washer, adjustable mounting bracket to channel	K.4404/Z
	Nut, adjustable mounting bracket to channel	K.4006/Z
UB.3776	Cover, hinge arm, outer, RH	UB.3790
UB.3777	Cover, hinge arm, outer, LH	UB.3792
UB.3689	Cover, hinge arm, inner, RH	UB.3789
UB.3690	Cover, hinge arm, inner, LH	UB.3791
	Screw, cover, hinge arm	CS.31341/Z
UA.109/Z	Bolt, hinge arm to vertical member	UA.112/Z
UA.110/Z	Bolt, hinge arm to vertical member	UA.113/Z
UB.2128	Floor, reinforcement plate	UB.3825
UB.2926	Assy. cover duct, intake	UB.3512
UW.2072	Assy. picnic tray	UW.2311
	Skirt valance (RH side)	UB.3538
UB.1522	Bolt pivot, handle	UB 3575
	Escutcheon	UB.3576
UD.6251	Crossduct heater LH	UD.8114
UD.6252	Crossduct, heater RH	UD.8113
UD.6130	Assy. housing blower	UD.5894
UD.6130	Assy. housing blower	UD.5895
UD.6122	Blower housing	UD.5883
UD.6122	Blower housing	UD.5891
	Tail cone, blower	UD.5884
	Assy. air duct	UD.5887
	Reinforcement corner, rear	UB.4058
	Stiffener	UW.2317
	Panel carpet	UW.2109
UW.2110	Panel, floor front	UW.2546
UD.2927	Cover intake duct	
UW.2387	Panel, lower, rear seat	
UW.2144	Assy. trim, rear compartment	
UD.4991	Duct connection, rear compartment	

Displaced		New
UD.5039	Assy. bezel, duct.	
UD.5044	Support bracket	
UD.5043	Support bracket	
UD.6189	Spire speed nut SNV.2013	
UD.6180	Splitter plate, inlet	
UD.5042	Splitter plate, outlet	

PHANTOM V

HEATING

To prevent the rubber heater hoses from chaffing where they pass between the body sill support bracket and the RH No.1 body mount, the hoses have been made shorter, and re-run inboard of the chassis side member, and connected to the new copper pipes, which run up the toeboard to the heater tap, and the RH under wing heater matrix.

In order not to cause a blown fuse by the copper pipes fouling the voltage regulator, a 9" length 11m/m bore PVC tubing is shrunk over the upper end of each copper pipe; the tubing is softened and stretched in acetone, and shrinks on to the pipe on drying.

So far as the sheet metal parts are concerned the only difference is the provision of extra holes for the new clips.

All new hoses are in the same material as the displaced parts but shorter.

Part numbers are as follows :

Displaced		New
UR.5067	Assy, pedal gap plate (RH cars)	UR.5592
UR.4355	Assy, blanking plate pedal gap plate (LH cars)	UR.5591
UR.4909	Assy, dashboard	UR.5632
UR.5501	Hose, heater tap to pipe, rear heater	UR.5631
UR.5500	Hose, rear underseat heater to front heater	UR.5553
UR.5499	Hose, water tap to rear underseat heater	UR.5554
	Hose, connecting	UR.5493
	Pipe, rear underseat heater to front heater	UR.5555
	Pipe, water tap to rear underseat heater	UR.5556
	11 m/m bore x 9.000 PVC tubing	
	Clip, heater pipes, dashboard, pedal gap plate, and pedal blanking plate	UR.5588
	Clip, hoses to floor	UD.4274
	Clip, heater connection	RE.4750

INSTALLATION INSTRUCTIONS FOR ROLLS-ROYCE

PREPARATION OF AUTOMOBILE.

1. Jack up front end of car.

2. Remove left hand front wheel.

3. Remove ankle freezer ducting entirely from under fender and cut 13" off the rear end.

4. Remove the rear original heater duct assembly, after scribing a mark on the duct that will line up with the center line of the floor duct portion of this assembly. This center line is actually a molding line of the duct. Measure off $4\frac{1}{2}$" from this scribed line and cut the duct off at this location. Attach the end cap provided in the kit to the open end of this modified duct by use of four No. 6 x $\frac{1}{2}$ sms. Make certain that the lower end of this cap is opened to allow heater air to the drivers feet position. See Figure 5B. Re-install duct.

5. Loosen off hood lock handle from kick panel.

6. Remove radiator grille assembly.

7. Remove fan bolts and fan blades assembly.

8. Pull fan hub forward to radiator, but not off shaft. (Not necessary to remove radiator.)

9. Remove the Lucas radio antenna and remove the antenna mounting "L" bracket and discard bracket. Secure the antenna directly to the rear fender panel tion by utilizing one of the bracket bolts and securing into the original bolt hole. Use a $\frac{1}{4}$ x $\frac{1}{2}$ H.H. sheet metal screw for the other hole. This positions the antenna at a slight cant but provides room for the evaporator assembly.

10. With a metal jigsaw cut the valance plate into two pieces as shown drawn on Figure 3. Secure bottom end with clip as drawn on Figure 3. The purpose of this is to allow removal of the forward portion of the plate for engine service.

11. Cut an oblong hole in the left engine valance plate at a position shown in Figure 3 for passage of hose lines.

INSTALL EVAPORATOR ASSEMBLY AND DISCHARGE AIR DUCTS.

1. Cut out blueprint template and from under fender, mark off on the valance plate the holes for the air return and discharge. The template provides locating points which are existing fender line bolt heads, and by utilizing these locating points can be put accurately into place. In addition to marking off the discharge air and return air apertures, mark for two holes, located on one side of the air return aperture, which are for evaporator attaching bolts. (The return air aperture exists as a plunged hole on those cars equipped with an ankle freezer.) On the inside of the

automobile, position the three way connecting duct properly on the discharge aperture, after removing the kick pad carpeting, and scribe onto the valance plate holes through the flange of the three way connecting duct. See Figures 1A and 2A. With an appropriate tool accomplish the aperture cuts and drill the holes.

2. Remove the top rear left fender valance plate bolt (just under the fender retaining bolt - See Figure 1). Replace this bolt with a 5/16" x 1½" bolt and nut provided in kit and insert through hole from engine side. Re-insert the original grommet and attach the top end of the evaporator mounting strap.

3. Also drill a 3/8" hole in the base of the valance plate for the lower end of the strap. See Figure 2 for location of hole.

4. The evaporator may now be installed by manipulating it as shown in the photos of Figures 4 through 7. The car must be jacked up rather high to provide clearance under the fender for the evaporator. An alternate method would be to balance the evaporator in a vertical position on a floor jack and wooden block, and by guiding the unit by hand, jack the assembly up into position. Care must be exercised in placing the evaporator into position in order to prevent contacting the evaporator with the fender and injuring the fender. Also ascertain that the evaporator strap is clear of the evaporator and takes a position across the top and around the outside of the case with the bottom (loose) end extending below the case.

   The evaporator should then be jiggled around until the discharge air and return air apertures line up with the corresponding apertures in the valance plate and until the two fixing holes in the evaporator line up to the holes previously drilled into the valance plate. Insert two No. 5/16" x 1½" bolts through the valance plate into the matching holes in the evaporator by threading through the double layer of polyurethane insulation. The installer may now reach inside the return air aperture, find the bolt ends and by utilizing the large flat washers provided in the kit, against the insulation on the inside of the unit and nuts on the bolt ends, secure the evaporator to the valance plate and compress the insulation between the case and valance.

5. Bring the discharge air ducting through the valance plate discharge air aperture and by lapping over, glue it to the metal of the valance forming a tight seal.

6. Insert the 4" stud through the hole previously drilled and tighten to valance plate with nut and jam nut. Bring the strap tight against the case outside, and secure the bottom end to the long 4" stud installed. Further tighten the case by taking up on the stud with its nut. Recheck tightness of the case retaining bolts previously inserted. See Figure 7.

7. Utilizing the 1/8" holes previously drilled, now secure the three way discharge air duct against the valance plate with three No. 8 x 1/2 screws. This may be seen in Figures 1A and 2A.

8. Trim carpeting to fit around the outside of the three way discharge assembly.

9. A 3½" accordian hose may be inserted between the right hand glove box and radio speaker and routed up and over the instrument board frame and picnic tray to the largest connection of the three way connection piece. See Figure 3A. Secure to the three way discharge air connecting piece by use of the hose clamp provided. The outlet duct grilles should be connected and screwed to the lower edge of the facia board, attaching the other end of the accordian hose to the duct grille, positioning as shown in Figure 4A. Secure to the bottom edge of the facia board by two No. 8 x ½" sms through the end holes on the duct grille bracket into the facia board. See Figure 5A.

10. The center duct and accordian hose should be installed in a similar manner and secured under the picnic tray and to the picnic tray frame. Attach the 2-3/4" accordian hose to the duct grille end and pass over the steering column to the lower connection of the three way discharge air duct, and clamp at both ends with clamps provided. Attach to the picnic tray frame by use of two No. 10x32x⅜" machine screws. See Figure 6A.

11. The left hand duct follows the same installation procedure, screwing again to the underside of the facia board, and connecting with a 2-3/4" accordian hose. See Figures 7A and 8A. The three way duct, hoses and duct grille assemblies may be seen assembled in Figure 9A. The duct grilles assembled to the car are shown in Figure 10A.

INSTALL COMPRESSOR PLATFORM, COMPRESSOR AND CLUTCH ASSEMBLY.

1. Remove three right water pump housing bolts as shown at point A, B, C, Figure 1B, and one bolt at point D.

2. Position platform in place as shown in Figure 2 and insert ¼" x 1" NF bolts provided in kit at point A and C. Insert 5/16" x 3-1/2" NF bolt at point B. Insert 5/16" x 3-1/2" NF bolt at point D with 1/4" spacer provided, between bracket and engine. Insert three 5/16" x 1" NF bolts at points E, F, and G. Use lock washer on all seven bolts. All bolts must be started before tightening. Tighten all bolts.

3. Place the rubber bumper and bracket assembly provided in kit on right fender wall so that it takes its position directly opposite the foot bracket attached to the compressor platform. If necessary, drill holes in the fender wall and install bracket assembly with bolts provided. The bumper should space to 1/4" from platform tab.

4. Swivel the discharge compressor valve counter clockwise as far as it will swivel. This is to allow clearance between the top radiator hose and the discharge refrigerant pipe. Tighten valve flange bolts.

5. Position the compressor in the platform cradle. Secure with four 3/8" 3/4" NC bolts and locks at the side and two 3/8" x 1-1/4" NC at the base. Use locks on all bolts.

6. Reinstall the fan hub assembly and fan blades.

7. Remove three alternate seal face plate bolts and install the clutch coil using bolts provided in the clutch box. Assemble the clutch pulley to the compressor shaft and secure with the special 5/16" bolt and large washer provided in the clutch box. Tighten after current is provided to clutch and belts are in place.

8. Circuit the matched 8233 belts over drive pulley, over generator pulley, and over the clutch pulley and tension properly with the generator adjustments.

INSTALL CONDENSER ASSEMBLY.

1. Cut a 1" hole in the left radiator side frame plate at a location that is similar to the location of the original hole in the right plate.

2. Position condenser brackets behind the condenser flanges and secure with 1/4" x 1/2" bolts, nuts and washers in holes provided in the condenser flange. See point A, Figure 2B. Remove two radiator grille side valance plate bolts, point F, Figure 2B, and point B, Figure 2B.

3. Locate condenser as shown in the figure. The holes in the condenser brackets will line up with the holes vacated by removal of the valance plate bolts. Secure condenser by using the four original bolts.

4. Connect the #8 preformed discharge hose to the swivelled discharge port of the compressor, point C, Figure 2B, so that the bend will clear the top radiator hose. The hose will position so that the longer double bent extruded tubing will pass over the top of the radiator and will connect to the condenser inlet as shown at point D. By using existing grille bracket and clamp, point E, and small clamp provided on the discharge pipe (inset Figure 2B) secure the discharge hose to keep from rattling. Tighten refrigerant connections.

HOSE ROUTING.

1. Attach the No. 10 x 52" suction hose to the suction port of the compressor and route rear and towards the left, attaching to the carburetor pipe with clamp provided. See Figures 9 and 10. Pass the hose through the valance plate at the hole previously drilled in preparation. See Figure 3. With a swivel "L" attach the hose to the suction outlet of the evaporator assembly.

2. Attach the No. 6 x 84" liquid hose to the lower connection of the condenser, pass in front of the condenser towards the left and pass through the hole, previously drilled in the right side radiator plate. Pass along the left engine valance plate and pass through the same hole in the plate as the suction hose. Connect to the side connection of the receiver-drier assembly which is attached to the evaporator case. Clamp in two positions on the valance plate.

INSTALLATION OF WIRING HARNESS AND ELECTRICS.

1. Remove center wiring duct cover and insert switch end of wiring harness through and into the car coming out behind the instrument assembly. Route wiring down to switch position, which is to be installed to the lower edge of the facia board as shown in Figure 4B, on the right side of the steering column, and pass the twin wire up to the thermostat position behind the left hand glove box. The wiring harness on engine side of the firewall should now be routed along and up to the fuse board where the blue and heavy black wires may be connected to the terminals as per the wiring diagram. The long black wire should be routed along the right hand valance plate up to the magnetic clutch and connected thereto. The remaining wires will connect to the two resistors and relay, which are to be mounted on the space

beside the fuse board, and the long red and blue wires routed with the existing wiring across the firewall, through the left hand valance, and to the blower motors in the evaporator. Connections should be made as shown in the wiring diagram.

2. The thermostat assembly is to be fastened in the left hand glove box on the back wall of the box. The capillary tube from this switch can be routed behind the left hand kick panel carpet through the air return opening and pushed into the evaporator coil about three inches.

3. Reposition the original return air grille wire and the carpet assembly.

FINISH INSTALLATION.

1. After the length has been removed from the ankle freezer ducting, re-secure the duct flange to the ducting and secure the flange to the open hole on the forward side of the evaporator case assembly, by use of No. 8 x $\frac{1}{2}$ sms. The push-pull cable should then be pushed through the hole just over the return air hole of the evaporator (See arrows on Figure 10A), and will protrude through the hole in the front side of the evaporator. Connect to the clevis pin that accuates the air flap in the ankle freezer duct. When adjusting the cable make certain that, with the cable set for the closed position, that the flap in the ankle freezer is closed very tightly.

2. Using the piece of 1" polyurethane provided in the kit, wrap the ankle freezer ducting up against the evaporator case by gluing the insulation to the ankle freezer duct.

3. Re-install radiator grille assembly.

4. Using proper refrigeration technique charge system with 3 to 3-1/4 pounds of F-12.

5. Using Catapillar Plastic liners, line all holes through which the refrigerant lines pass.

6. Re-install hood lock assembly.

7. Clamp suction and liquid hoses to valance plate on wheel well side, in a position close to the evaporator and clear of the wheel movement.

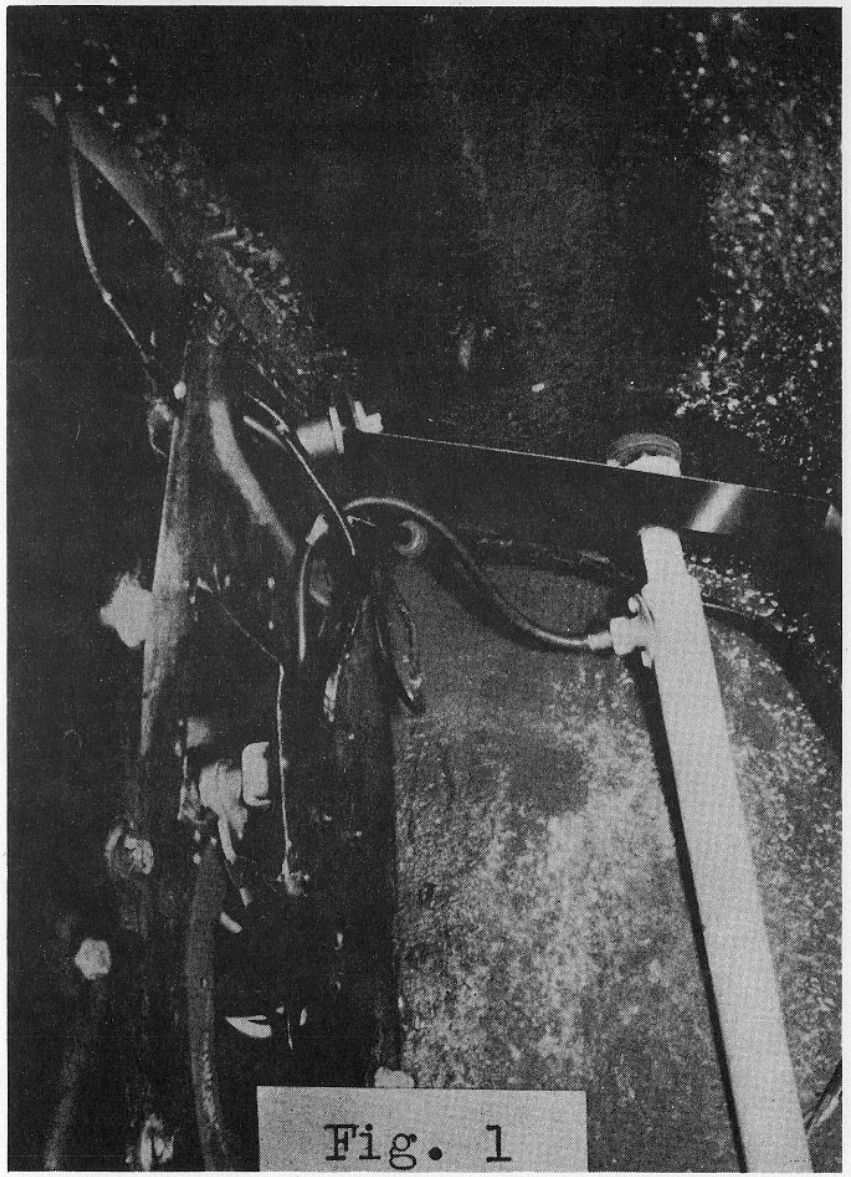

Fig. 1

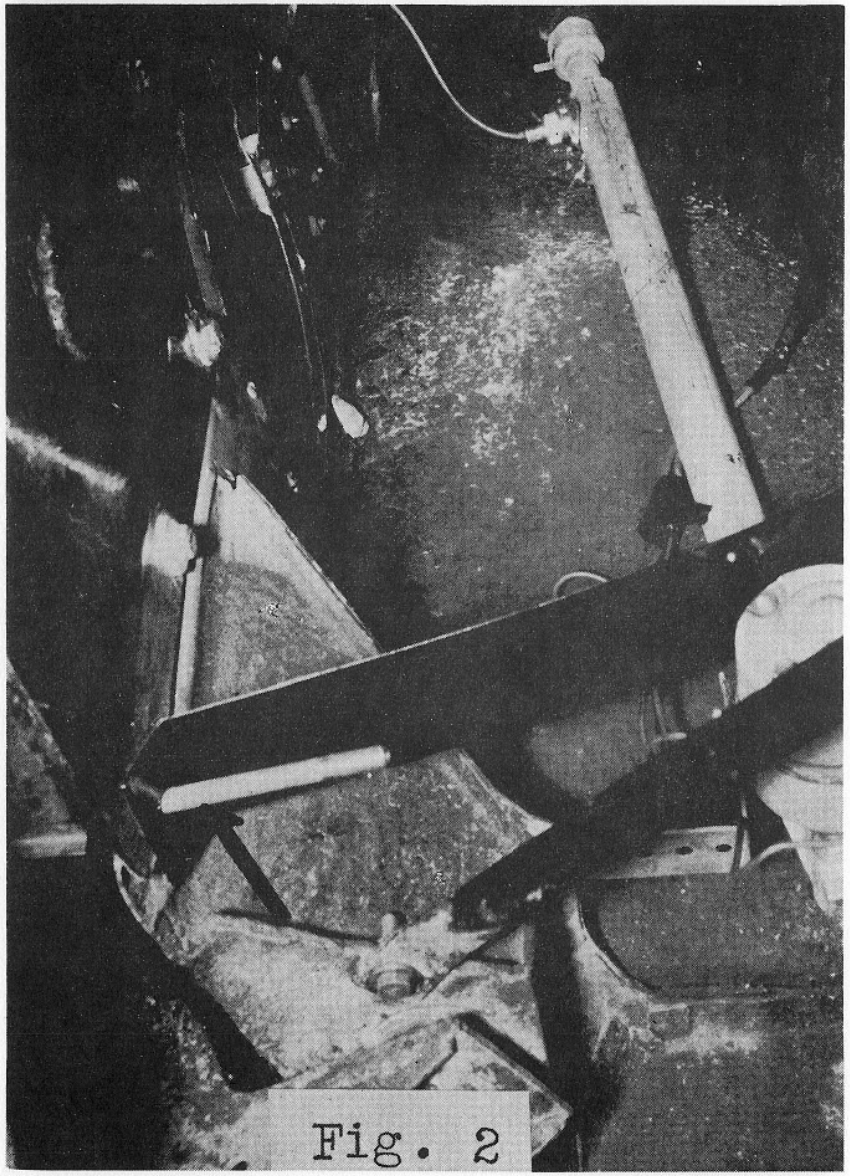

Fig. 2

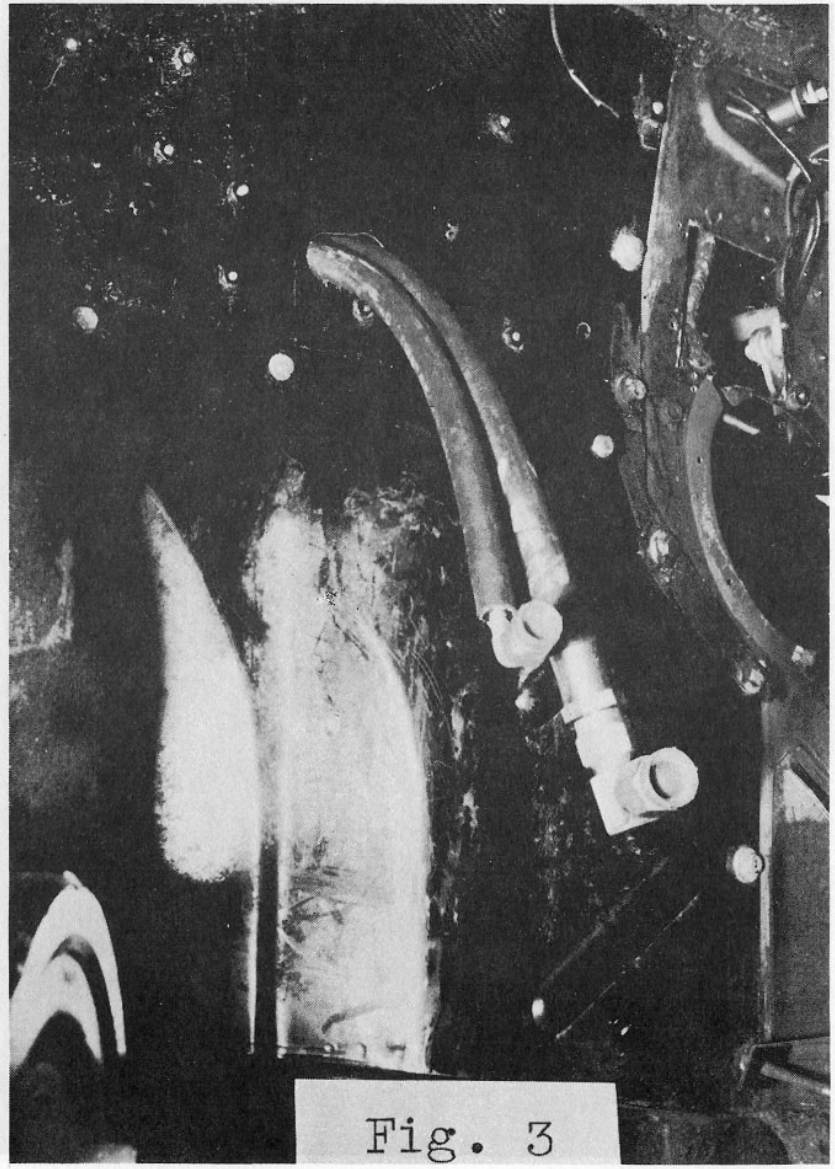

Fig. 3

Fig. 4

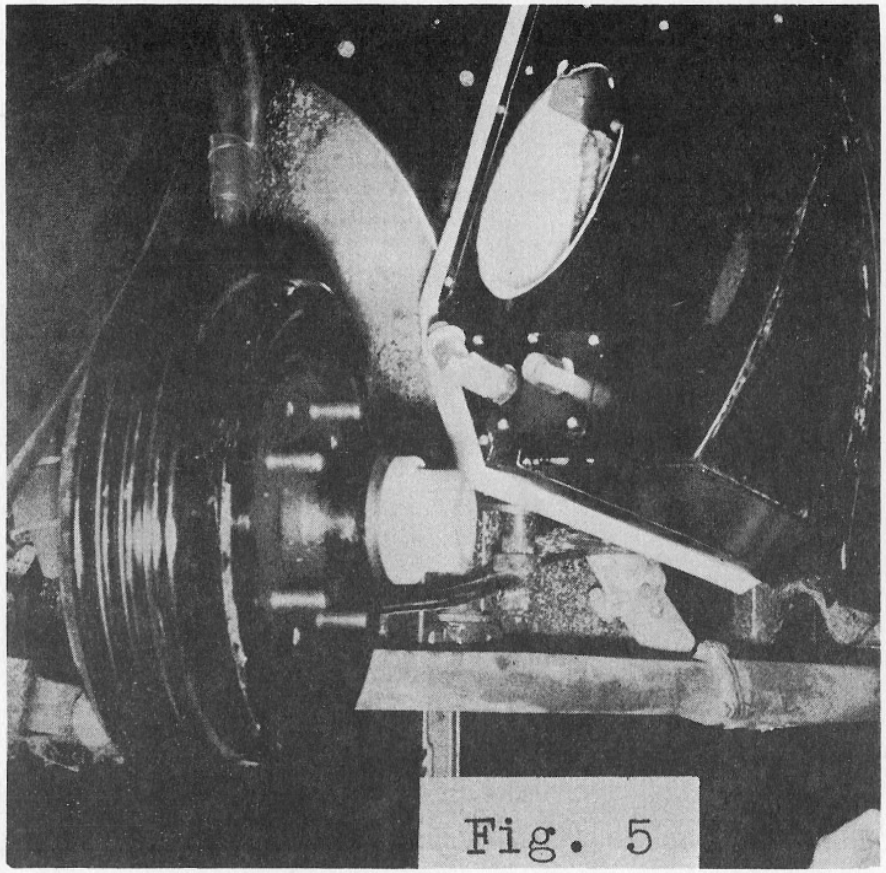

Fig. 5

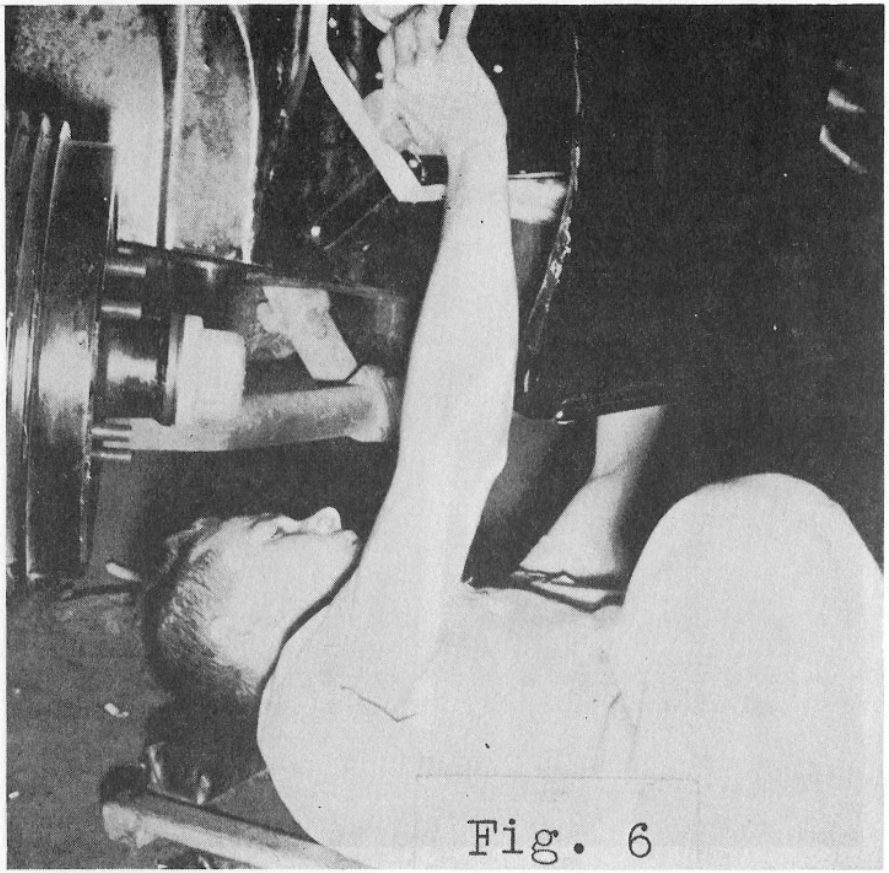

Fig. 6

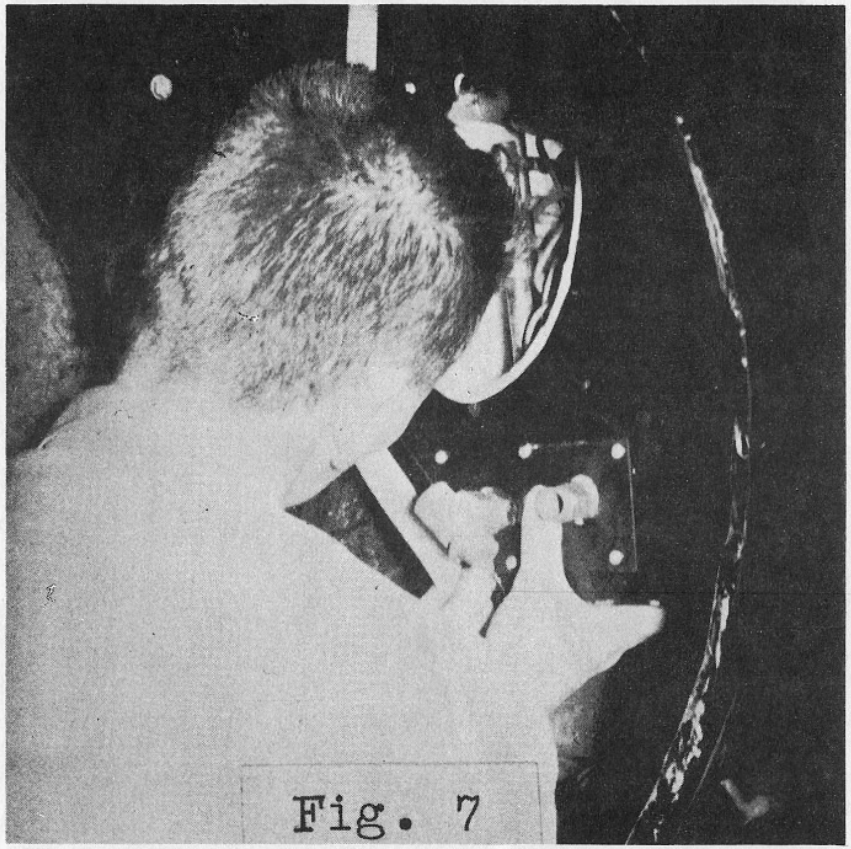

Fig. 7

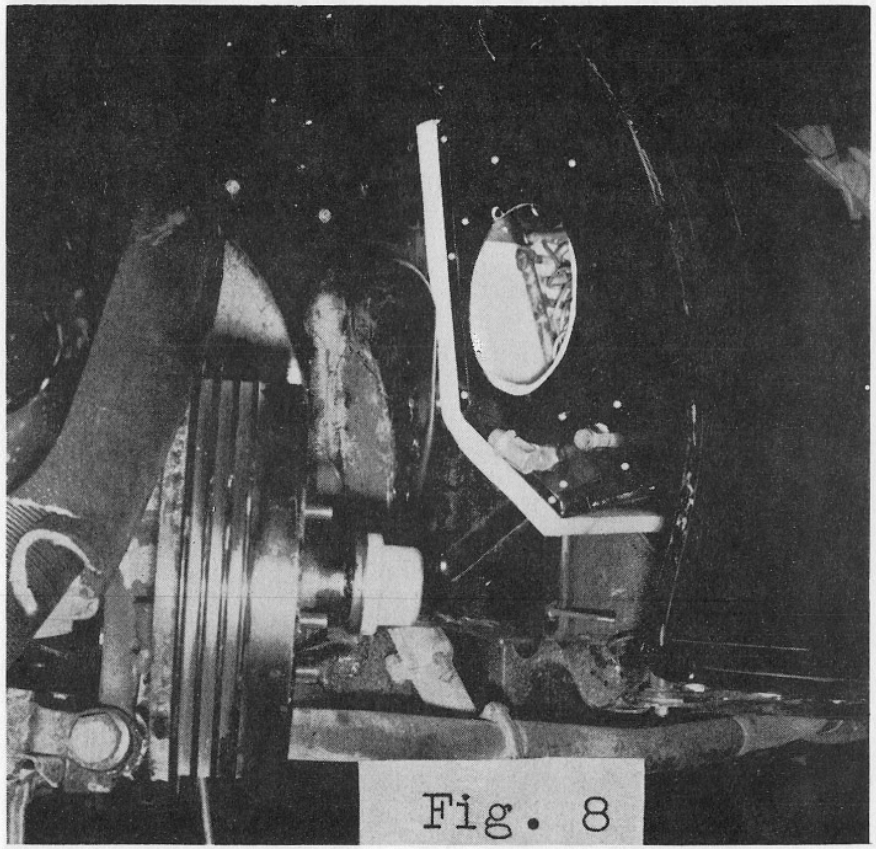

Fig. 8