SERVICE MANUAL

FOR

MODEL HD6 TRACTOR

FEBRUARY 1958

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FOREWORD

This manual has been prepared to provide the customer and maintenance personnel with information and instructions for repairing and maintenance of the Model "HD-6B" Tractor (standard model). The Model HD-6 Tractor is a product of practical and proven design. Extreme care has been exercised in the selection of materials and the manufacturing of the tractor. By skillful operation and proper maintenance of the tractor, the utmost satisfaction in performance and service will be obtained.

In order to become familiar with the various parts of the tractor, it is urged that the maintenance personnel study the instructions and illustrations in this manual and use it as a reference when performing repair or maintenance operations. An Operators Manual is provided with each tractor for the purpose of providing the operator essential information regarding day-to-day care, adjustments, and lubrication of the tractor. It is important that the Operators Manual be kept with the tractor so that the information contained therein is available to the operator and service personnel at all times.

All information and illustrations shown throughout this manual pertain to the Model "HD-6B" Tractor (standard model) unless otherwise stated.

Sections I through XVIII of this manual contain detailed instructions for the removal, disassembly, inspection, assembly, installation, and adjustment of the various assemblies of the tractor when repairs or overhaul become necessary.

Section XIX describes the Special Equipment available for the tractor.

General Maintenance Instructions are given in Section XX, and Fits and Tolerances in Section XXI.

Trouble Shooting Information given in Section XXII will aid in determining the cause of operating irregularities and tells what may be done to correct them. General information on the availability of Special Tools is given in Section XXIII.

Many owners of "Allis-Chalmers" equipment employ the Dealer's Service Department for all work other than routine care and adjustments. This is encouraged as the dealers are kept well informed by the factory regarding advanced methods of servicing "Allis-Chalmers" products and are equipped to render satisfactory service. IMPORTANT: ALWAYS FURNISH THE DEALER WITH BOTH THE TRACTOR AND ENGINE SERIAL NUMBERS WHEN ORDERING PARTS.

To assure the best results and to maintain the original quality built into the tractor, it is important that Genuine "Allis-Chalmers" Parts be used when new parts are required.

SUBJECT INDEX

SECTION I — DESCRIPTION AND SPECIFICATIONS

1. GENERAL DESCRIPTION

The description given herein and the information contained in this manual pertains to the Model "HD-6B" Tractor (Standard Model), unless otherwise stated.

The Model "HD-6B" Tractor is a 12,600 pound track-type tractor powered with a 4 cylinder, 4-stroke cycle, naturally aspirated, "Allis-Chalmers" Diesel Engine. Power from the engine is transmitted through a single plate, over-center type engine clutch to the transmission through a universal joint drive shaft assembly. From the transmission, the power is transmitted to the bevel gear, and from the bevel gear through the steering clutches to the final drives and the track drive sprockets.

The transmission provides 5 forward and 1 reverse speed ranges. At rated engine speed of 1800 R.P.M. (governed full load), the transmission provides forward speeds ranging from 1.5 M.P.H. in low gear to 5.5 M.P.H. in high gear and a reverse speed of 2.0 M.P.H.

Mechanical self-energizing brakes, wide operator's seat, and an unobstructed view of the front of both tracks assure easy, positive control of the tractor at all times.

The standard model tractor is equipped with 24-volt electric starting and lighting equipment, suction type cooling fan, muffler, full-width crankcase guard, bumper, hinged radiator guard, and 13" integral grouser track shoes. The truck wheels, track idlers, and track support rollers have positive type seals.

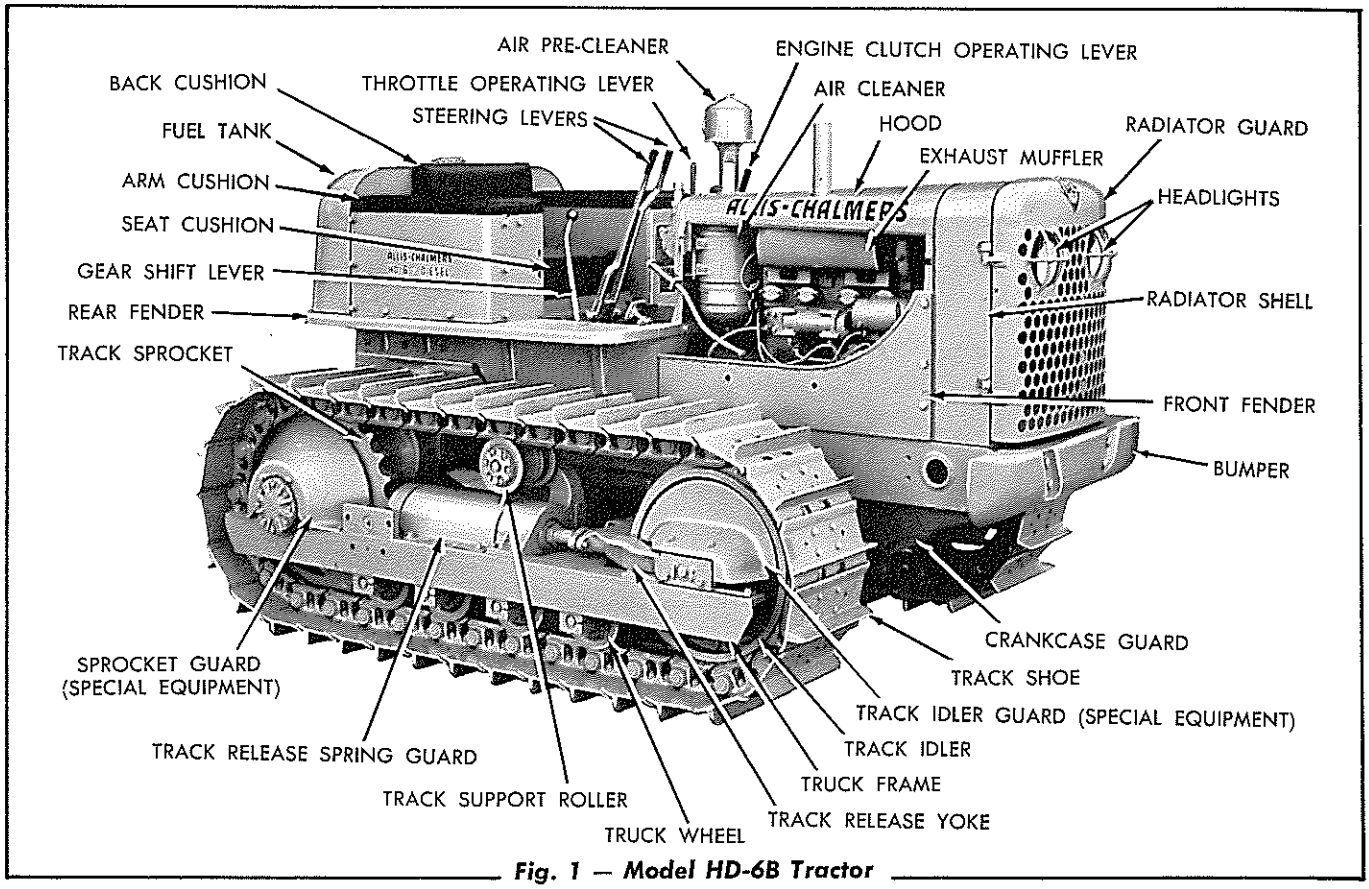

Fig. 1 — Model HD-6B Tractor

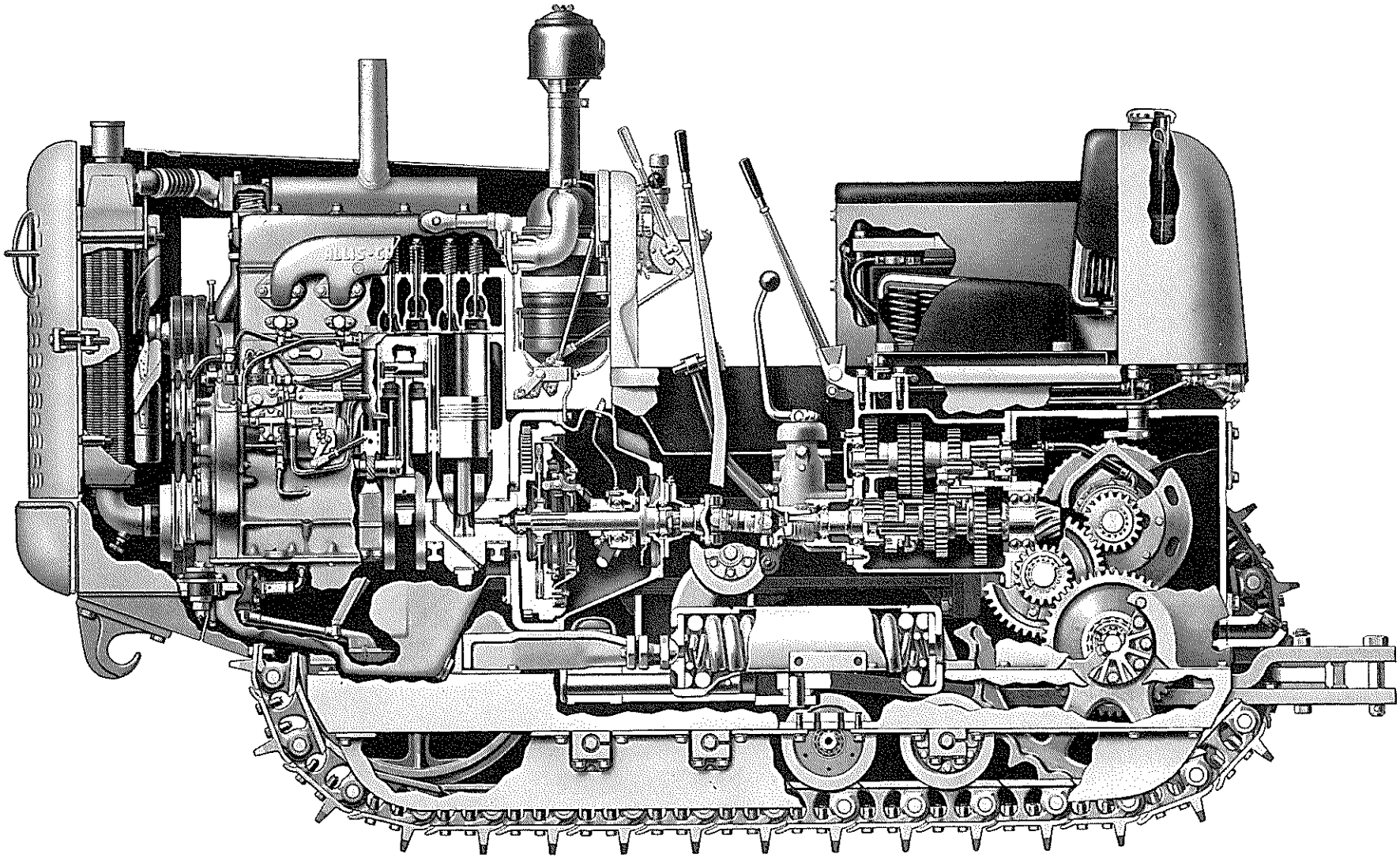

Fig. 2 — HD-6B Tractor (Sectional View)

2. GENERAL SPECIFICATIONS

GENERAL SPECIFICATIONS:

Overall Length	10 ft. 7 3/16 in.
Overall Height (including exhaust stack)	5 ft. 8 5/8 in.
Overall Width (standard shoes)	6 ft. 6 in.
Ground Clearance	11 1/4 in.
Drawbar Height (center line of jaw)	13 15/16 in.
Lateral Drawbar Movement	21 in.
Shipping Weight (approximate)	12,600 lbs.
Number of Track Shoes per Track:	
Prior to Tractor Serial Number 5100	33
Tractor Serial Number 5100 and above	34
Height of Grouser	2 1/8 in.
Diameter of Track Shoe Shoulder Bolt	1/2 in.
Diameter of Track Pins	1 3/8 in.
Diameter of Track Pin Bushings	2 in.
Length of Track on Ground (34 link track)	5 ft. 6 7/8 in.
Width of Standard Track Shoes	13 in.
Maximum Width Track Shoes Available	20 in.
Ground Contact Area (34 link track with standard shoes)	1739 sq. in.
Ground Pressure lbs. per sq. in. (34 link track with standard shoes)	7.2
Tread Width (center-to-center of tracks)	60 in.

TRACTOR SPEEDS (At Rated Engine Speed):

1st Gear	1.5 M.P.H.
2nd Gear	2.4 M.P.H.
3rd Gear	3.3 M.P.H.
4th Gear	4.0 M.P.H.
5th Gear	5.5 M.P.H.
Reverse Gear	2.0 M.P.H.

STEERING:

Method	Clutches
Controls	Mechanical
Turning Radius	7 ft. 1/4 in.

ENGINE:

Make	"Allis-Chalmers" Diesel
Model	HD-344
Type	Four-stroke Cycle (Naturally Aspirated)
Lubrication	Full Pressure
Fuel Used	Diesel Fuel
Fuel Supplied By	"American Bosch" Fuel Injection Pump
Number of Cylinders	4
Compression Ratio	15:1
Bore (in.)	4 7/16
Stroke (in.)	5 7/16
Piston Displacement (cu. in.)	344
Crankshaft Rotation (when viewed from fan end)	Clockwise
Number of Main Bearings	5
Rated R.P.M. (Governed At Full Load)	1800
Low Idle Speed R.P.M.	525 to 550
High Idle Speed R.P.M.	1930 (+ or — 25)
Valve Timing	
Intake Valve Opens B.T.D.C.	24°
Intake Valve Closes A.B.D.C.	58°
Intake Valve Open — Duration	262°
Exhaust Valve Opens B.B.D.C.	65°
Exhaust Valve Closes A.T.D.C.	35°
Exhaust Valve Open — Duration	280°
Firing Order	1 — 3 — 4 — 2
Generator Speed	1.8 x Crankshaft Speed
Transmission Top Shaft Speed	.535 x Crankshaft Speed
Fuel Transfer Pump Speed	.5 x Crankshaft Speed
Fuel Injection Pump Timing (Prior to Tractor Serial Number 5100)	28° B.T.D.C.
Fuel Injection Pump Timing (After Tractor Serial Number 5100)	32° B.T.D.C.

CAPACITIES (Approximate):	Metric Measure	U. S. Standard Measure
Cooling System	32.2 liters	8½ gals.
Crankcase and Filter	11.4 liters	3 gals.
Air Cleaner	1.9 liters	2 qts.
Transmission	18.9 liters	5 gals.
Final Drives (each)	11.4 liters	3 gals.
Fuel Tank	151.4 liters	40 gals.
Support Roller	.5 kg.	1 lb.
Track Idler	.8 kg.	1¾ lbs.
Truck Wheel	.5 kg.	1 lb.

The Allis-Chalmers Manufacturing Company reserves the right to make changes in the above specifications or to add improvements at any time without notice or obligation.

3. SPECIFICATIONS OF LUBRICANTS

A. Engine Crankcase Lubricant

USE NON-CORROSIVE "DIESEL" ENGINE LUBRICATING OIL CONTAINING ADDITIVES WHICH WILL PREVENT SLUDGE OR GUM DEPOSITS. UNDER NO CIRCUMSTANCES SHOULD A CORROSIVE ENGINE LUBRICATING OIL EVER BE USED.

Use oils of the following viscosities:

Atmospheric Temperature	Viscosity
90° F. and above	Use SAE 40
32° F. to 90° F.	Use SAE 30
0° F. to 32° F.	Use SAE 20W
0° F. and below	Use SAE 10W

Manufacturers of lubricants recognize the importance of the qualities required for use in our equipment and they are cooperating fully to assure the use of only those oils which fulfill these requirements. The oil distributor and/or oil manufacturer are to be held responsible for the results obtained from their products.

The outstanding lubricating requirements for efficient operation of the engine are: The maintaining of piston rings in a clean, free condition; absence of hard carbon and "varnish" deposits on or within engine parts; the prevention of bearing corrosion; and the promotion of general cleanliness within the engine.

Proper operation and maintenance of the engine are necessary to obtain the desired results from the lubrication oil.

For additional information regarding engine lubricating oil, contact your "Allis-Chalmers" Construction Machinery Dealer.

B. Air Cleaner

Use the same viscosity oil in the air cleaner as used in the engine crankcase. CAUTION: *Do not use an oil that foams.*

C. Transmission and Final Drive Lubricant

Lubricate these assemblies with a good grade of engine lubricating oil purchased from a reputable oil company.

Use oils of the following viscosities:

Atmospheric Temperature	Viscosity
Above 32° F.	Use SAE 50
32° F. and below	Use SAE 30

D. Truck Wheel, Track Idler, and Track Support Roller Lubricant

Lubricate these assemblies with a grease that meets certain definite specifications:

The type of grease used for lubricating these assemblies must:

1. Have good pumpability and cold temperature characteristics.
2. Have a minimum effect on the synthetic rubber seal boots.
3. Be an extremely stable grease both mechanically and chemically that will not deteriorate excessively with long usage.

Detailed specifications of the greases are as follows:

Worked Penetration (60 Strokes)
(ASTM-D-217) . . . . . .355 to 385
Worked Penetration (10,000 Strokes) . . . 400 max.
Dropping Point °F. (ASTM-D-566) . . . . . 180 min.
Water Content % (ASTM-D-128) . . . . . 1.0 max.
Ash Content % (ASTM-D-128) . . . . . 1.5 max.
Acidity or Alkalinity % (ASTM-D-218) . . . 0.3 max.
Fillers . . . . . None
Corrosion (Federal Spec. 530.4) . . . . . None
Norma-Hoffman Oxidation Test:
Pressure Drop, psi, 100 hours at 210° F. . . 5 max.
Viscosity of Oil S.U. sec. at 130° F. . . . 120 to 185
Aniline Point of Oil, °F. (ASTM-611) . . . . 225 min.

Contact your local supplier for a grease which meets these specifications. The distributor and/or manufacturer of the lubricant used are responsible for the results obtained from their products.

E. Pressure Gun Lubricant

Use a ball and roller bearing lubricant with a minimum melting point of 300° F. This lubricant should have a viscosity range so as to assure easy handling in the lubricating gun at prevailing atmospheric temperature, and *MUST* be waterproof.

4. SPECIFICATIONS OF FUEL

The "DIESEL" fuel should be a natural distillate petroleum oil and must have certain qualities in order to ignite and burn at the proper rate and temperature. Field experience has shown that the fuel best suited for this engine closely approximates the following specifications:

Gravity API	30 - 35
Viscosity Saybolt Universal at 100° F.	35 - 40
Flash Point	150° F.
Diesel Index	48.5 to 65.5
Cetane Number	46 - 60
Pour Point	0° F.
Volatility 90%	650° F. Max.
End Point 98%	
Summer	700° F. Max.
Winter	600° F. Preferable
Sediment and Water	Trace
Ash	.02 of 1% Max.
Conradson Carbon	.03 of 1% Max.
Sulphur	½ of 1% Max.

For satisfactory fuel flow through lines and filters in cold weather, the pour point of fuel must be at least 10° F. below the prevailing atmospheric temperature.

The API gravity of a fuel varies with its specific gravity. The low API fuels are desirable because they have a high specific gravity and more heat units per gallon; however, the higher the API gravity, the better will be the ignition quality of the fuel.

The ignition quality of the fuel is expressed as a "cetane number." The higher the cetane number, the higher the quality of the fuel. The higher cetane fuel shortens the ignition delay period to facilitate starting and improve combustion. The "DIESEL" index number, which is a close approximation of the cetane number, is a field method to represent ignition quality.

The distillation 90% point and the end point are important. High volatility is required to enable complete vaporization of the fuel, clean combustion, and low residue formation.

The flash point of the fuel has no quality significance, but it is important with respect to safety in storage and handling of the fuel.

It is important that the fuel be within the specified limits for ash, carbon, water, and sediment content, etc., to prevent excessive wear and damage to the engine parts.

It is also important that the fuel has lubricating properties so that the fuel injection pump and fuel injection nozzles are adequately lubricated. At times it may be necessary to use fuel with no lubricating properties. If this occasion arises, add one quart of SAE 10 engine oil to every 10 gallons of fuel. NOTE: *Distillates should be used only in emergencies.* When the proper fuel is again available, the fuel system must be drained before the proper fuel is added.

CAUTION: *The sulphur content of "DIESEL" fuel should be as low as possible. The fuel should not contain a sulphur content of more than ½ of 1%.*

Generally speaking, a No. 2 "Diesel" fuel purchased from a reputable oil company will meet the above specifications.

5. FUEL STORAGE

Refer to "FUEL STORAGE" in the HD-6 Tractor Operators Manual for information concerning fuel storage.

6. TRACTOR AND ENGINE SERIAL NUMBERS

On all parts orders and in all correspondence relative to the tractor, it is necessary that both the tractor and engine serial numbers be given. This information will properly identify the particular tractor or engine and will assure obtaining the correct replacement parts.

The tractor serial number is stamped in the rear face of the steering clutch housing (near the upper right corner) and is also stamped on a serial number plate attached to the cowl.

The engine serial number is stamped on a plate attached to the left rear side of the cylinder block, below the fuel filters, and is also stamped on the serial number plate attached to the cowl.

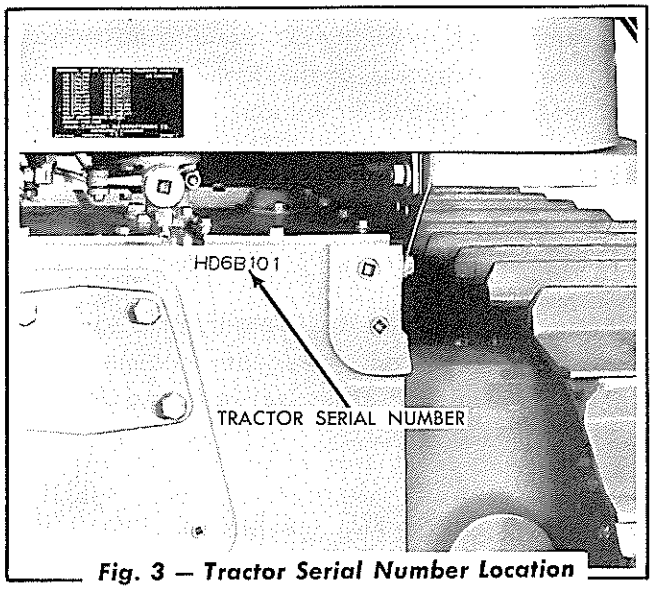

Fig. 3 — Tractor Serial Number Location

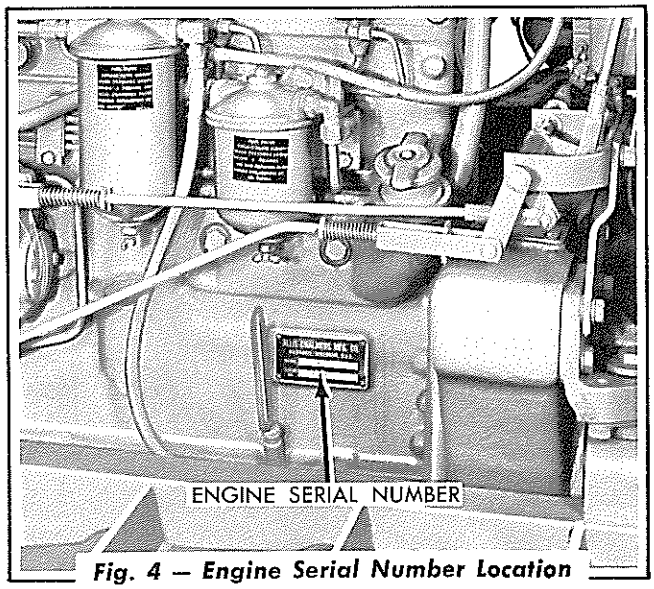

Fig. 4 — Engine Serial Number Location

SECTION II — ENGINE FUEL SYSTEM, GOVERNOR, AND ENGINE CONTROLS

1. DESCRIPTION OF SYSTEM

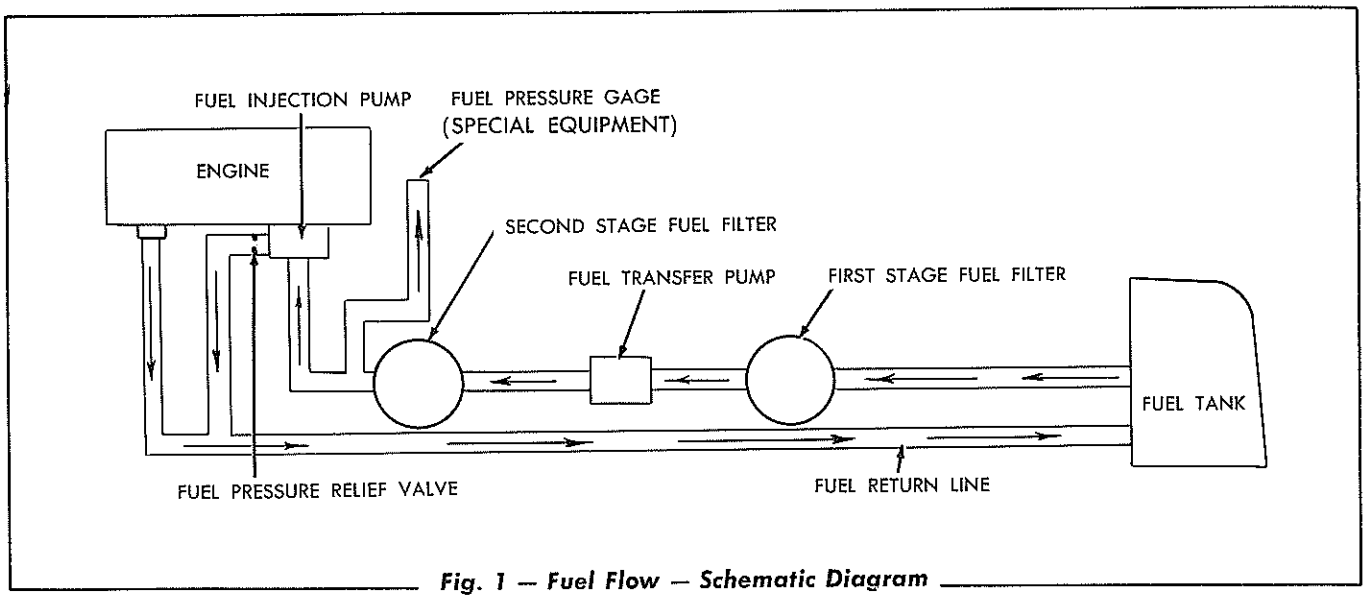

Fig. 1 — Fuel Flow — Schematic Diagram

The engine fuel system consists of a fuel tank, first stage fuel filter, fuel transfer pump, second stage fuel filter, fuel injection pump, fuel injection nozzles, and the fuel lines. There are two fuel pressure systems; the low pressure system and the high pressure system.

The low pressure system consists of the fuel tank, first stage fuel filter, fuel transfer pump, second stage fuel filter, fuel return manifold, and the fuel return line leading from the fuel pressure relief valve of the fuel injection pump to the fuel tank.

The high pressure system consists of the fuel injection pump, fuel injection nozzles, and fuel injection lines connecting the fuel injection pump to the fuel nozzles. The fuel injection lines are seamless steel tubing and each line is the same length. These lines being the same length assures the proper timing and the proper amount of fuel to each fuel injection nozzle. These lines are not interchangeable; when ordering lines for replacement, specify for which cylinder the line is ordered.

The fuel is drawn from the fuel tank, through the first stage fuel filter, by the fuel transfer pump. The fuel is then forced by the transfer pump, through the second stage fuel filter and to the fuel injection pump. The amount of fuel required for combustion is forced under high pressure by the fuel injection pump, through the fuel injection lines to the fuel injection nozzles, from which the fuel enters the engine combustion chambers in the form of a fine cone-shaped spray.

There is a certain amount of fuel seepage between the lapped surfaces of each fuel injection nozzle valve and its body, which is necessary for lubrication. This leakage of fuel accumulates around the spindle and in the spring compartment of each fuel injection nozzle, and is returned through the fuel return manifold to the fuel pressure relief valve and then to the fuel tank. The excess fuel delivered to the fuel injection pump by the fuel transfer pump is also returned to the fuel tank through the fuel return line. A pressure of 5 to

15 P.S.I. is maintained within the low pressure fuel system by a fuel pressure relief valve installed in the fuel return outlet of the fuel injection pump.

The heavy-duty fuel injection pump is of the constant-stroke, distributing-plunger, sleeve control type, the plunger being actuated by a cam and tappet arrangement which also carries the gearing for the distribution function. Its purpose is to meter the fuel accurately and deliver it precisely at a definite moment in the engine cycle and under high pressure to the fuel injection nozzles. The fuel injection pump plunger is 9 mm. in diameter and the pump is controlled by a mechanical-centrifugal type (type "C") governor.

The function of the fuel injection nozzles is to direct the metered quantity of fuel, received from the fuel injection pump, into the engine combustion chambers in a definite spray pattern and in such a manner as to produce the most efficient engine performance. The valve of each fuel injection nozzle is operated hydraulically by the pressure of the fuel delivered by the fuel injection pump.

2. CHECKING OF SYSTEM

A. General

"Missing" or uneven running of the engine, excessive vibration, stalling when idling, and loss of power are indications of insufficient fuel supply to the engine. Before performing any of the following checks, make certain there is an ample supply of fuel in the fuel tank.

B. Check for Admission of Air Into System

Loosen the vent screw (Fig. 16) located in the top of the second stage fuel filter. Crank the engine with the starter. If fuel containing bubbles flows from around the vent screw, this indicates that air is being drawn into the system on the suction side of the fuel transfer pump. Correct this condition by tightening any loose low pressure fuel line connections, first stage fuel filter connections, and the first stage fuel filter shell retaining nut.

C. Check for Clogged Fuel Filters and Clogged or Collapsed Fuel Lines

Loosen the vent screw (Fig. 16) in the top of the second stage fuel filter and crank the engine with the starter. If a full flow of fuel is not obtained from around the loosened vent screw, this indicates a clogged or collapsed fuel line or a clogged first stage fuel filter element. If this condition exists, remove and replace the first stage fuel filter element or clean or replace the necessary fuel line.

If a full flow of fuel was obtained from around the loosened vent screw in the second stage fuel filter, tighten the vent screw. Loosen the pipe plug in pipe tee (Fig. 28) of the second stage fuel filter, crank the engine with the starter, and check for full flow of fuel from the pipe tee. If a full flow of fuel is not obtained from the pipe tee, this indicates a clogged second stage fuel filter element and the element must be replaced. Tighten the pipe plug.

D. Check for Inoperative Fuel Pressure Relief Valve or Inoperative Fuel Transfer Pump

The gear type fuel transfer pump (Fig. 2) should deliver more fuel to the fuel sump of the fuel injection pump than is required for engine operation. The fuel pressure relief valve (Fig. 2), connected into the fuel return passage of the fuel injection pump, controls the maximum fuel pressure within the fuel sump of the injection pump. When the fuel pressure within the fuel sump of the injection pump exceeds 15 P.S.I., the fuel pressure relief valve opens and allows the excess fuel to return to the fuel tank through the fuel return line. The fuel leak-off from the fuel injection nozzles is also returned to the fuel tank through this valve and the fuel return line. Check for an inoperative fuel pressure relief valve or an inoperative fuel transfer pump as follows:

1. Remove the pipe plug from the pipe tee (Fig. 28) of the second stage fuel filter. Install a suitable pressure gage in the opening from which the plug was removed.

2. Start the engine and operate at approximately one-half throttle. Observe the fuel pressure indicated by the gage. The gage should indicate a pressure of 5 to 15 P.S.I. If the gage indicates a pressure below 5

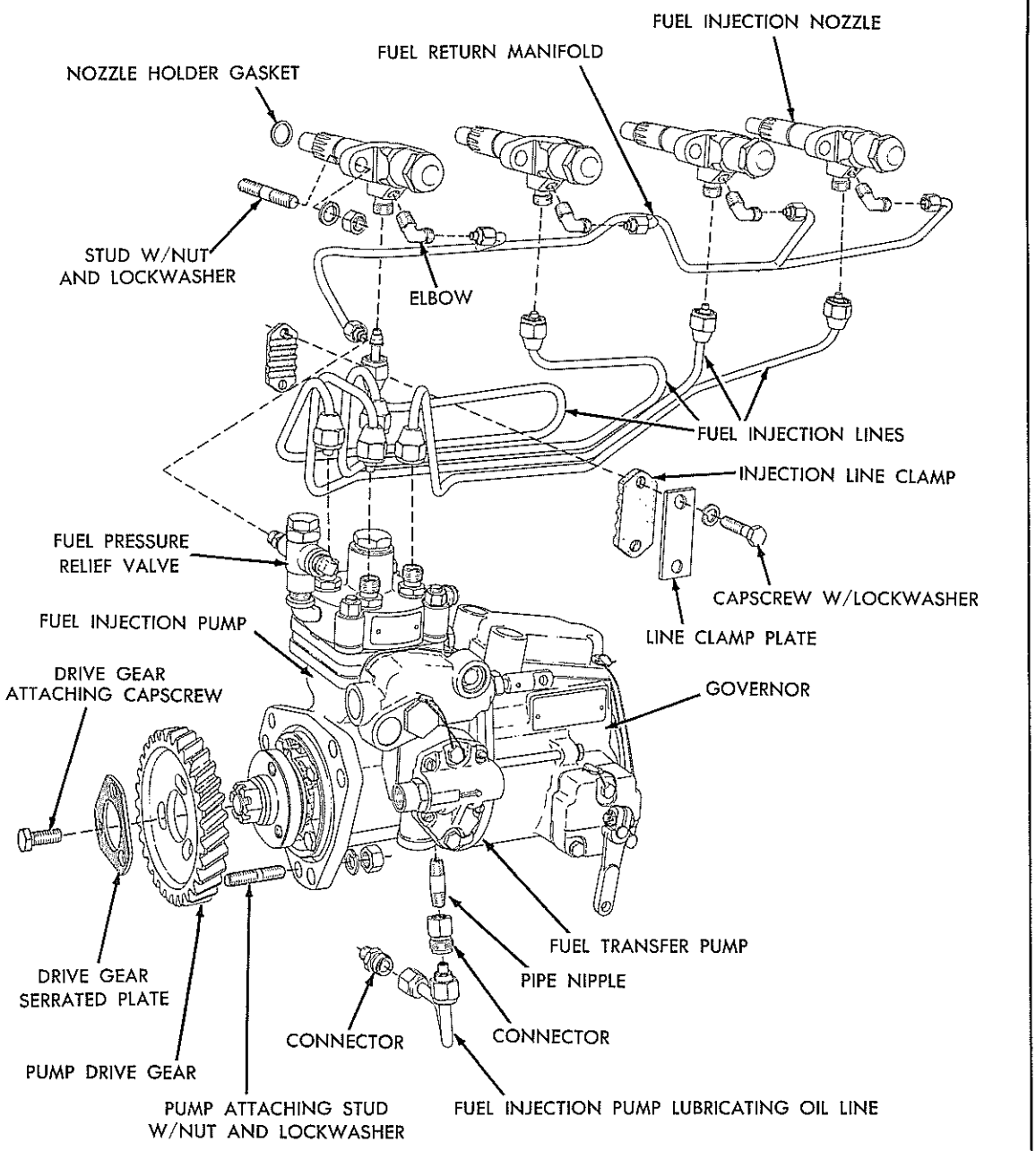

Fig. 2 — Fuel Injection Pump, Injection Nozzles, and Fuel Pressure Relief Valve

P.S.I., stop the engine and disconnect the fuel return line from the fuel pressure relief valve.

3. Start the engine and operate at approximately one-half throttle. If the gage indicates a pressure below 5 P.S.I. and a full flow of fuel is observed from the fuel pressure relief valve, this indicates that the relief valve is stuck in the open position and the valve must be replaced as a unit. However, if the gage indicates a pressure below 5 P.S.I. and little or no fuel is observed from the fuel pressure relief valve, this indicates an inoperative fuel transfer pump and the pump must be removed, inspected, and replaced as a unit if necessary.

4. If a pressure above 15 P.S.I. is indicated by the gage, the fuel pressure relief valve is inoperative and must be replaced as a unit.

5. Stop the engine and remove the pressure gage. Install and tighten the pipe plug. Connect the fuel return line to the fuel

pressure relief valve.

E. Check for Inoperative Fuel Injection Nozzles

"Missing" or uneven running of the engine and loss of power are an indication of an inoperative fuel injection nozzle or nozzles. Locate the faulty fuel injection nozzle or nozzles as follows:

Run the engine at low idle speed and "cut-out" each fuel injection nozzle in turn by loosening the fuel injection line nut attaching the fuel injection line (Fig. 2) to its corresponding fuel injection nozzle. NOTE: *KEEP THE HANDS AWAY FROM THE LOOSENED NUT WHILE PERFORMING THIS TEST.* A decrease in engine speed with the injection line nut loosened indicates that the nozzle for that cylinder is functioning properly. If the engine speed does not decrease, the nozzle is inoperative and should be replaced. The "faulty" nozzle should be taken to your nearest "Allis-Chalmers" Construction Machinery Dealer for repair, testing, and adjustment as a special nozzle tester is required.

F. Check for Inoperative Fuel Injection Pump

If all the above causes for insufficient fuel supply have been eliminated, and the engine still runs unevenly and normal engine performance is not obtained, the fuel injection pump will be considered at fault and should be replaced. The "faulty" fuel injection pump (with governor) should be taken to your nearest "Allis-Chalmers" Construction Machinery Dealer for repairs and testing. IMPORTANT: *Do not replace the fuel injection pump before making certain that all other possible causes for improper engine operation have been eliminated.*

3. FUEL TANK AND FUEL FILTERS

A. Service and Maintenance

Refer to "FUEL SYSTEM" in the HD-6 Tractor Operators Manual for descriptive information and service and maintenance instructions on these components.

B. Fuel Tank Removal and Installation

1. Removal

a. Remove the arm rest cushion from each battery box. Remove the two capscrews (located inside each battery box) attaching each side of the fuel tank to the rear of the corresponding battery box.

b. Close the fuel tank shut-off cock, located under the fuel tank. Thoroughly clean the shut-off cock and the connection of the fuel supply rear tube. Disconnect the fuel supply rear tube from the fuel tank shut-off cock and cover the end of the tube to prevent the entrance of dirt.

c. Thoroughly clean the connection on the rear of the fuel return rear tube, located under the left side of the fuel tank. Disconnect the fuel return rear tube from the tank and cover the end of the tube to prevent the entrance of dirt.

d. Remove the three bolts attaching each side of the fuel tank to the rear fenders.

e. Place a suitable chain or rope around the fuel tank and remove the tank from the tractor. When removing, keep the tank mounting shims separated so that they may be reinstalled in their original positions.

2. Installation

Install the fuel tank by a direct reversal of the removal procedure given above. Tighten the bolts attaching the fuel tank to the rear fenders to a torque of 70 to 90 lbs. ft.

4. FUEL INJECTION NOZZLES

A. General

Each cylinder of the engine is provided with a throttling pintle-type, differential-needle, hydraulically-lifted fuel injection nozzle. The function of each fuel injection nozzle is to direct the metered quantity of fuel, received from the fuel injection pump, into the corresponding combustion chamber of the engine in a highly atomized, pre-determined spray pattern and in such a manner as to produce the most efficient engine performance.

Each fuel injection nozzle consists of two assemblies; the injection nozzle holder assembly and the injection nozzle assembly. The holder assembly is used to hold the injection nozzle in its correct position in the cylinder head and to provide a means of conducting fuel, received from the fuel injection pump, to the nozzle. The holder consists of a steel holder body, spindle, spindle spring and spring seat, spring retainer nut, pressure adjusting screw, nozzle holder cap, and a nozzle retaining nut. The nozzle consists of a nozzle valve and a valve body. The nozzle valve is operated hydraulically within the valve body by the fuel delivered under pressure by the fuel injection pump.

B. Operation

The metered quantity of fuel under pressure, delivered by the fuel injection pump, enters the fuel inlet passage of the injection nozzle holder body, passes through the holder body fuel duct into the nozzle body fuel duct, via the annular groove in the top of the nozzle body, and then into the pressure chamber above the nozzle valve seat.

At the instant the pressure of the fuel in the pressure chamber exceeds the pressure exerted on the spindle and the nozzle valve by the spindle spring, the nozzle valve is lifted off its seat and the fuel is forced through the orifice in the end of the valve body and into the corresponding combustion chamber of the engine. The nozzle valve is returned to its seat by the pressure exerted by the spindle spring, as soon as the fuel injection pump has ceased to deliver fuel to the nozzle.

There is a certain amount of fuel seepage between the lapped surfaces of each nozzle valve and valve body, which is necessary for lubrication. This leakage of fuel accumulates around the spindle and in the spring compartment of the fuel nozzle, and is returned through the fuel return manifold to the fuel pressure relief valve, where it is returned to the fuel tank through the fuel return line extending from the relief valve to the fuel tank.

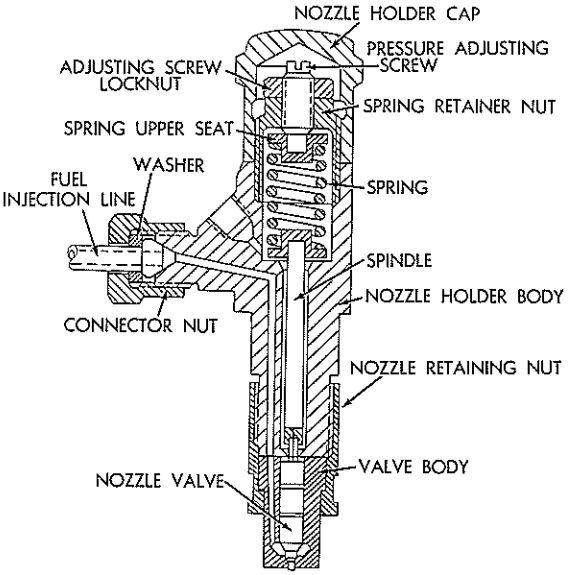

Fig. 3 — Fuel Injection Nozzle (Sectional View)

C. Service

The fuel injection nozzles should be removed after the first 50 to 75 hours of operation, tested for proper "popping" pressure, and adjusted if necessary. The above test and adjustments should again be made periodically thereafter (after approximately every 2000 hours of operation). The fuel injection nozzle when properly adjusted should require a pressure of 2000 P.S.I. to raise the nozzle valve from its seat. The opening pressure ("popping pressure") is adjustable by means of the pressure adjusting screw. Turning the adjusting screw counterclockwise decreases the opening pressure; turning the adjusting screw clockwise increases the opening pressure. NOTE: *A special nozzle tester, similar to the one shown in Fig. 5, is required for testing and adjusting the fuel nozzles.*