
Lubrication Systems, Oil Pump Angle Operation, Lubrication Options, Oil Filter Kits, Low Oil Pressure Switches By Engine Model

MODEL	DESCRIPTION	PART NO.
AENL	Plunger for oil pump with fuel pump drive	KF23-1
AENL	Plunger rod, oil pump with fuel pump drive	KF26C
S7D, S8D, TRA10D, TR10D, TRA12D	Dip stick (screw-in)	RJ141-5
S7D, S8D, TRA10D, TR10D, TRA12D	Dip stick (long hook)	RJ171
S7D, S8D, TRA10D, TR10D, TRA12D	Dip stick (short hook)	RJ171D
S10D, S12D, S14D	Oil filler dip stick assembly	R123-74
S10D, S12D, S14D	Dip stick (screw in)	RJ165
S10D, S12D, S14D	Dip stick (saber type)	RJ171C
TE, TF, THD	Low oil pressure switch (magneto ignition)	YC48S3
TE, TF, THD	Low oil pressure switch (battery ignition)	YC50S3
TF, TH, THD, THDM	Oil pump assembly, angle operation	K99CS1
VG4D, VH4D	Adapter tube	RF1495F
VG4D, VH4D	Dip stick oil saber	RJ173A
VE4D, VF4D, VH4D	Oil filter kit with straight adapter	RV52K
VE4D, VF4D, VH4D	Oil filter kit with angle adapter (NLA)	RV40KA
VE4D, VF4D, VH4D	Low oil pressure switch (magneto ignition)	YC48S1
VE4D, VF4D, VH4D	Low oil pressure switch (battery ignition)	YC50S1
VG4D	Low oil pressure switch (magneto ignition)	YC48S2
VG4D	Low oil pressure switch (battery ignition)	YC50S2
VR4D	Low oil pressure switch (magneto ignition)	YC48
VR4D	Low oil pressure switch (battery ignition)	YC50
V465D	Low oil pressure switch	YC82
W2-880	Dip stick and oil spray nozzle	R123

Lubrication Systems, Oil Pump Angle Operation, Lubrication Options, Oil Filter Kits, Low Oil Pressure Switches By Part Number

PART NO.	DESCRIPTION	MODEL
K99CS1	Oil pump assembly, angle operation	TF, TH, THD, THDM
KF23-1	Plunger for oil pump with fuel pump drive	AENL
KF26C	Plunger rod, oil pump with fuel pump drive	AENL
RF1495F	Adapter tube	VG4D, VH4D
RJ141-5	Dip stick (screw-in)	S7D, S8D, TRA10D, TR10D, TRA12D
RJ171	Dip stick (long hook)	S7D, S8D, TRA10D, TR10D, TRA12D
RJ171D	Dip stick (short hook)	S7D, S8D, TRA10D, TR10D, TRA12D
RJ173A	Dip stick oil saber	VG4D, VH4D
R123	Dip stick and oil spray nozzle	W2-880
R123-74	Oil filler dip stick assembly	S10D, S12D, S14D
RJ165	Dip stick (screw in)	S10D, S12D, S14D
RJ171C	Dip stick (saber type)	S10D, S12D, S14D
RV52K	Oil filter kit with straight adapter	VE4D, VF4D, VH4D
RV40KA	Oil filter kit with angle adapter	VE4D, VF4D, VH4D
YC48S1	Low oil pressure switch (magneto ignition)	VE4D, VF4D, VH4D
YC50S1	Low oil pressure switch (battery ignition)	VE4D, VF4D, VH4D
YC48S2	Low oil pressure switch (magneto ignition)	VG4D
YC50S2	Low oil pressure switch (battery ignition)	VG4D
YC48S3	Low oil pressure switch (magneto ignition)	TE, TF, THD
YC50S3	Low oil pressure switch (battery ignition)	TE, TF, THD
YC48	Low oil pressure switch (magneto ignition)	VR4D
YC50	Low oil pressure switch (battery ignition)	VR4D
YC82	Low oil pressure switch	V465D

K99CS1 Oil Pump Assembly

**USE WITH MODELS TF, TH, THD, THDM (Adaptable to these models,
permitting engine operation at a 30° tilt in any direction)**

The K99CS1 oil pump assembly is easily adaptable to the Wisconsin two cylinder engine models, and allows extreme angle operation without affecting engine lubrication.

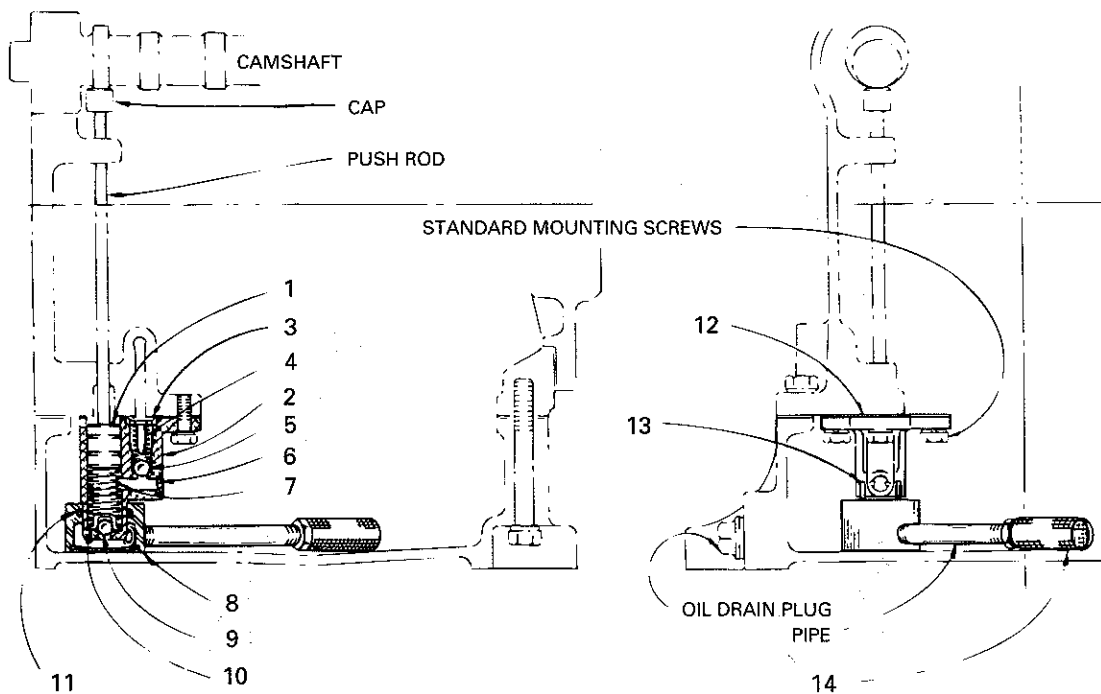
INSTALLATION

1. Drain crankcase oil and disassemble base. Eight cap screws are removed from the top and two from the bottom of the base.
2. Remove oil pump assembly and retain the three mounting screws and lock washers, for attaching the new pump to the crankcase.
3. If the push rod and cap show excessive wear, they should be replaced. These two parts are not included in this kit, but are readily available from your local Wisconsin dealer.
4. Drop check ball (9) into pump body cylinder and tap lightly into seat with a hammer. Insert spring (7), with check ball retainer (10) attached, and plunger (1), into cylinder and hold in place.
5. Mount pump body assembly (2) and gasket (12) to crankcase, using the three cap screws and lock washers retained from the old pump.
6. Mount strainer (14) to the extension pipe and assemble to adapter (8) at bottom of pump.
7. Clean out interior of engine base and reassemble to crankcase, tightening mounting screws 22 to 24 ft. lbs. torque. Be sure base gasket is in good condition.
8. Fill engine base to the proper oil level with the correct grade of lubricating oil.

Refer to page 2 for contents of kit and service parts list.

K99CS1 Oil Pump Assembly

USE WITH MODELS TF, TH, THD, THDM (Adaptable to these models, permitting engine operation at a 30° tilt in any direction)



ITEM	PART NO.	DESCRIPTION	QTY
1	KF23-1	Pump plunger	1
2	KA63B2S1	Oil pump body assembly (includes 3-6)	1
—	* KA63B2	Body	1
3	KF28	Check ball stop	1
4	PM165-1	Outlet spring	1
5	ME38A	Check ball	1
—	* KF30	Seat insert	1
6	SA93	Plug	1
7	PM58E	Spring	1
8	RD141AS1	Strainer adapter assembly (includes 11, 13; includes SA31)	1
—	SA31	Welch plug	1
9	ME38A	Check ball	1
10	PK50A	Retainer	1
11	JK54	"O" ring seal	1
12	QD663A	Gasket	1
13	PA351	Retainer pins	2
14	RD136	Oil strainer	1
—	XK21	Pipe plug	1

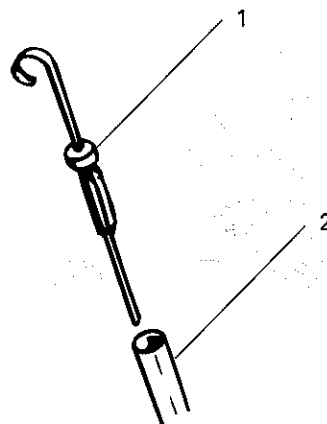
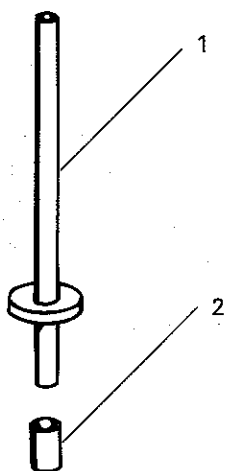
* Not serviced separately.

KF23-1, KF26C Lubrication Options

USE WITH MODEL AENL

RF1495F, RJ173A Lubrication Options

USE WITH MODELS VG4D, VH4D

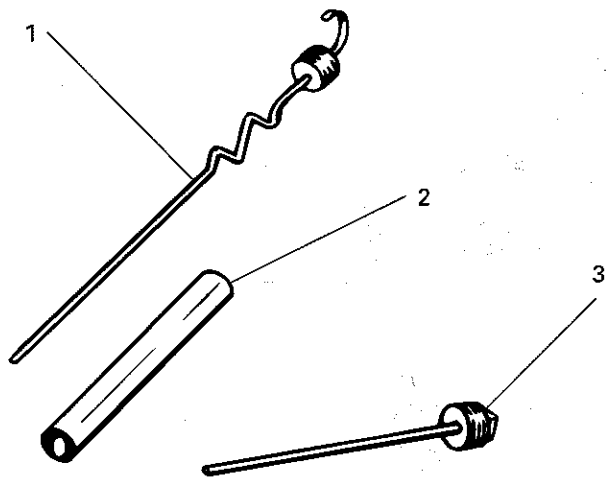
FOR ENGINES
WITH FUEL PUMP

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	KF26C	Plunger rod assembly, for engine with fuel pump (replaces KF26-3S1)	1	1	RJ173A	Dip stick, 6-1/4" long (starter side) (optional)	1
2	KF23-1	Plunger (replaces KF27A)	1	—	RJ159	Dip stick, 3-5/8" long (optional) (obsolete)	1
				2	RF1495F	Adapter tube, curved (starter side)	1

Note: Oil dip stick, used in conjunction with an adaptor tube, replaces dip stick mounted directly into crankcase, but is not interchangeable. Order by part number indicated on blade of dip stick.

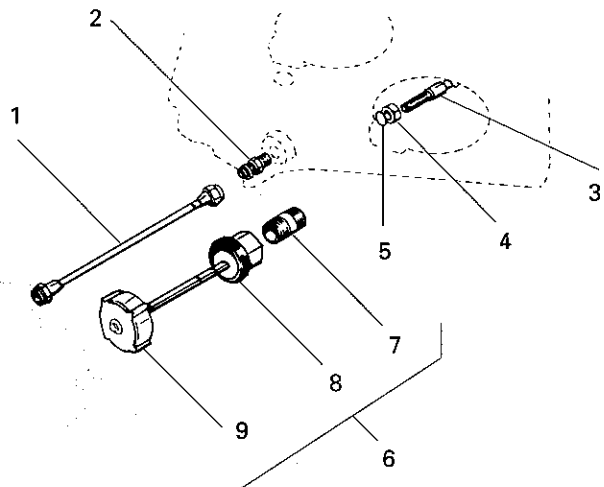
RJ141-5, RJ171, RJ171D Lubrication Options

USE WITH MODELS S7D, S8D,
TRA10D, TR10D, TRA12D



R123 Dip Stick And Oil Spray Nozzle Group

USE WITH MODEL W2-880

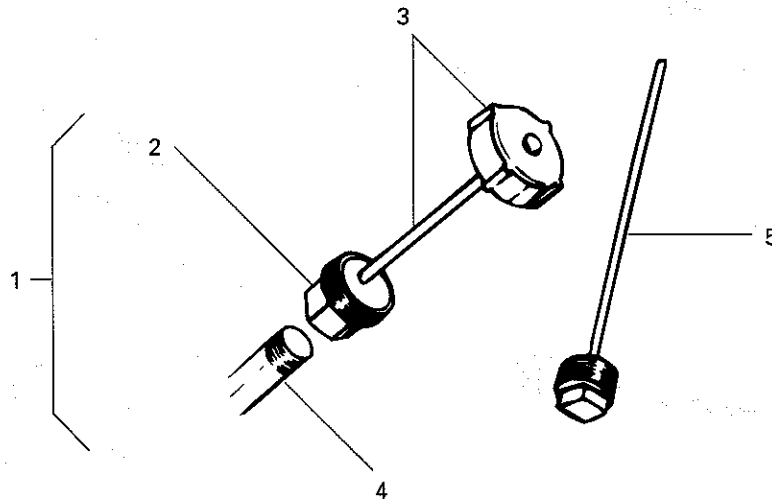


ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	RJ171	Dip stick, long hook	1	1	RM849	Oil line, 6" long	1
—	RJ171D	Dip stick, short hook	1	2	RF269	Straight fitting, 1/4" tubing nut	1
2	LJ438	Tube	1	3	RF1196	Oil spray nozzle	1
3	RJ141-5	Dip stick, saber type (screw in) (optional)	1	4	PD78	Nut, 5/16"-18 thread	1
				5	PE46	Lock washer, 5/16"	1
				6	R123	Oil dip stick/filler assembly (includes 7-9)	1
				7	LJ310	Pipe nipple, 1/2" x 1-1/2" long	1
				8	RB86	Body	1
				9	RJ168BS1	Dip stick/cap assembly	1

RJ165, RJ171C, R123-74 Lubrication Options

USE WITH MODELS S10D, S12D, S14D

— OPTIONAL —
OIL FILLER — DIPSTICK



ITEM	PART NO.	DESCRIPTION	QTY
1	R123-74	Oil filler/dip stick assembly (includes 2-4)	1
2	RB86	Body	1
3	RJ168ES1	Dip stick and cap (includes QD715)	1
4	LJ442	Pipe nipple, 1/2" x 3-3/8" long	1
5	RJ165	Screw-in dip stick, standard	1
—	RJ171C	Saber type dip stick (optional)	1

RV40K Oil Filter Kit With Straight Adapter (Replaced By RV52K)

USE WITH MODELS VE4D, VF4D, VH4D OPEN ENGINES (With electrical equipment)

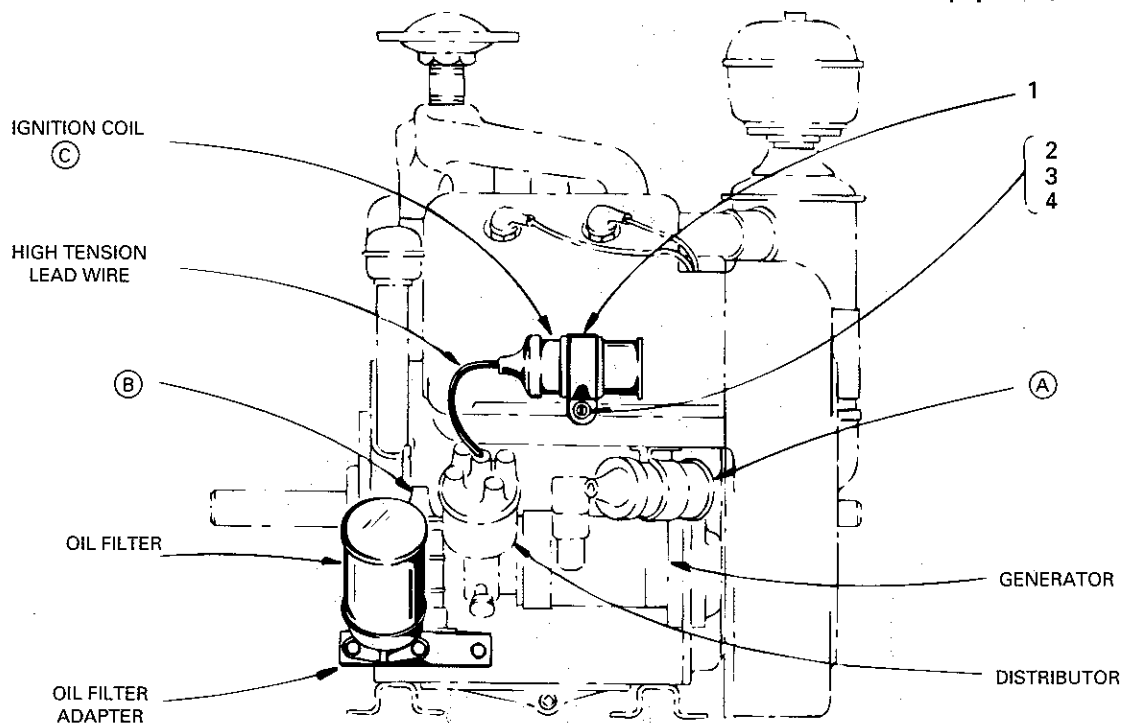


Fig. 1

INTRODUCTION

The Wisconsin models VE4D, VF4D and VH4D engines equipped with a battery charging generator and distributor on the left hand side of the engine did not have an oil filter due to its interference with the distributor. The ignition coil was originally mounted to a bracket on the crankcase, where the oil filter would ordinarily be mounted (see Fig. 1, location "B"). Later model engines have the coil mounted in location "A".

A straight adapter was designed to facilitate the mounting of an oil filter on electrical equipped engines, providing the extended mounting does not interfere with equipment the engine is mounted on. The oil filter extends approximately 10-1/2" out from the vertical center line of the engine and 1-1/4" beyond the bolting face of the crankcase (see Fig. 2).

IGNITION COIL MOUNTING (Fig. 1)

If ignition coil is mounted at location "A" as illustrated, it will not have to be moved. However, if the coil is in location "B", it will have to be relocated to location "C", in order to mount the oil filter adapter.

First disconnect the high tension lead wire at the coil. Then remove the coil, mounting bracket and studs from location "B". Remove the coil from the bracket by loosening the clamp screw at the bottom of the coil. The coil clamp, bracket and studs no longer are needed and can be discarded. By means of a clamp (1), mount the ignition coil at location "C" to the center tapped hole of the lower cylinder shroud with screw (2), lock washer (3), and plain washer (4). Connect high tension wire to coil and if other coil wires from the distributor and ignition switch were disturbed, be sure they are connected to the correct terminals.

OIL FILTER MOUNTING (Fig. 2)

Be sure to thoroughly clean off gasket surface on crankcase oil filter mounting pad.

Using new gaskets (6), mount the oil filter adapter (5) to the crankcase and the oil filter (11) to the adapter, by means of the cap screws (7, 9, 10) and lock washers (8).

The oil filter cartridge should be replaced after every other oil change. If operating conditions are extremely dusty, replace cartridge after every oil change.

RV40K Oil Filter Kit With Straight Adapter (Replaced By RV52K)

USE WITH MODEL VE4D, VF4D, VH4D OPEN ENGINES (With electrical equipment)

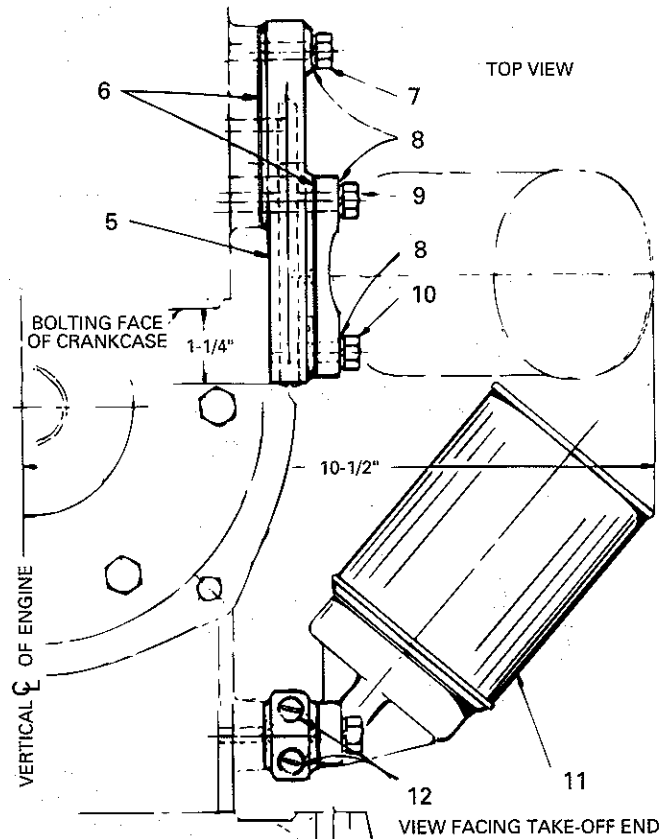


Fig. 2.

ITEM	PART NO.	DESCRIPTION	QTY
1	PG556	Clamp	1
2	XA36	Screw, 1/4"-20 thread x 3/4" long	1
3	PE3	Lock washer, 1/4"	1
4	PH84	Washer, 1/4" I.D. x 1/2" O.D.	1
5	TB119	Adapter	1
6	QD595A	Gasket	2
7	XD21	Screw, 5/16"-18 thread x 1-1/2" long	1
8	PE4	Lock washer, 5/16"	3
9	XD22	Screw, 5/16"-18 thread x 1-3/4" long	1
10	XD17	Screw, 5/16"-18 thread x 1" long	1
11	RV52A1	Oil filter base	1
—	RV52S4	Cartridge, 4-pack	1
—	QD685	Cartridge gasket	1
12	PF18	Pipe plug, 1/8" slotted	2

RV40KA Oil Filter Kit With Angle Adapter (Obsolete)

USE WITH MODELS VE4D, VF4D, VH4D OPEN ENGINES

(With electrical equipment and no. 5 S.A.E. bell housing)

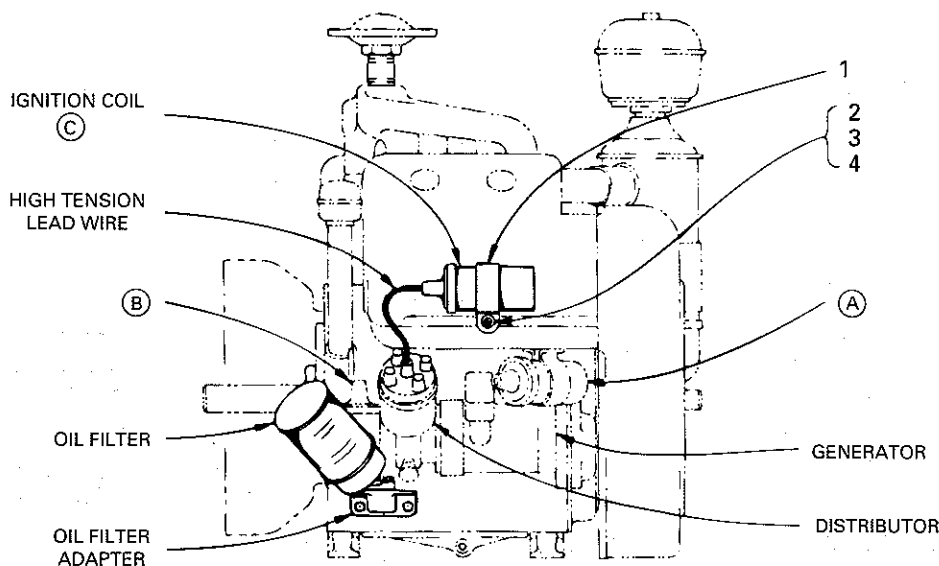


Fig. 1

INTRODUCTION

The Wisconsin models VE4D, VF4D and VH4D engines equipped with a battery charging generator and distributor on the left hand side of the engine did not have an oil filter due to its interference with the distributor. The ignition coil was originally mounted to a bracket on the crankcase, where the oil filter would ordinarily be mounted (see Fig. 1, location "B"). Later model engines have the coil mounted in location "A".

Due to trade demand, an angle adapter was designed to facilitate the mounting of an oil filter on electrical equipped engines, providing the extended mounting does not interfere with equipment the engine is mounted on. The oil filter extends approximately 10-3/16" out from the vertical center line of the engine and 2-5/8" beyond the bolting face of the crankcase (See Fig. 2). This angle adapter also provides sufficient clearance for mounting an oil filter to engines equipped with a number 5 S. A.E. bell housing.

IGNITION COIL MOUNTING (Fig. 1)

If ignition coil is mounted at location "A" as illustrated, it will not have to be moved. However, if the coil is in location "B", it will have to be relocated to location "C", in order to mount the oil filter adapter.

First disconnect the high tension lead wire at the coil. Then remove the coil, mounting bracket and studs from location "B". Remove the coil from the bracket by loosening the clamp screw at the bottom of the coil. The coil clamp, bracket and studs no longer are needed and can be discarded. By means of a clamp (1), mount the ignition coil at location "C" to the center tapped hole of the lower cylinder shroud with screw (2), lock washer (3), and plain washer (4). Connect high tension wire to coil and if other coil wires from the distributor and ignition switch were disturbed, be sure they are connected to the correct terminals.

OIL FILTER MOUNTING (Fig. 2)

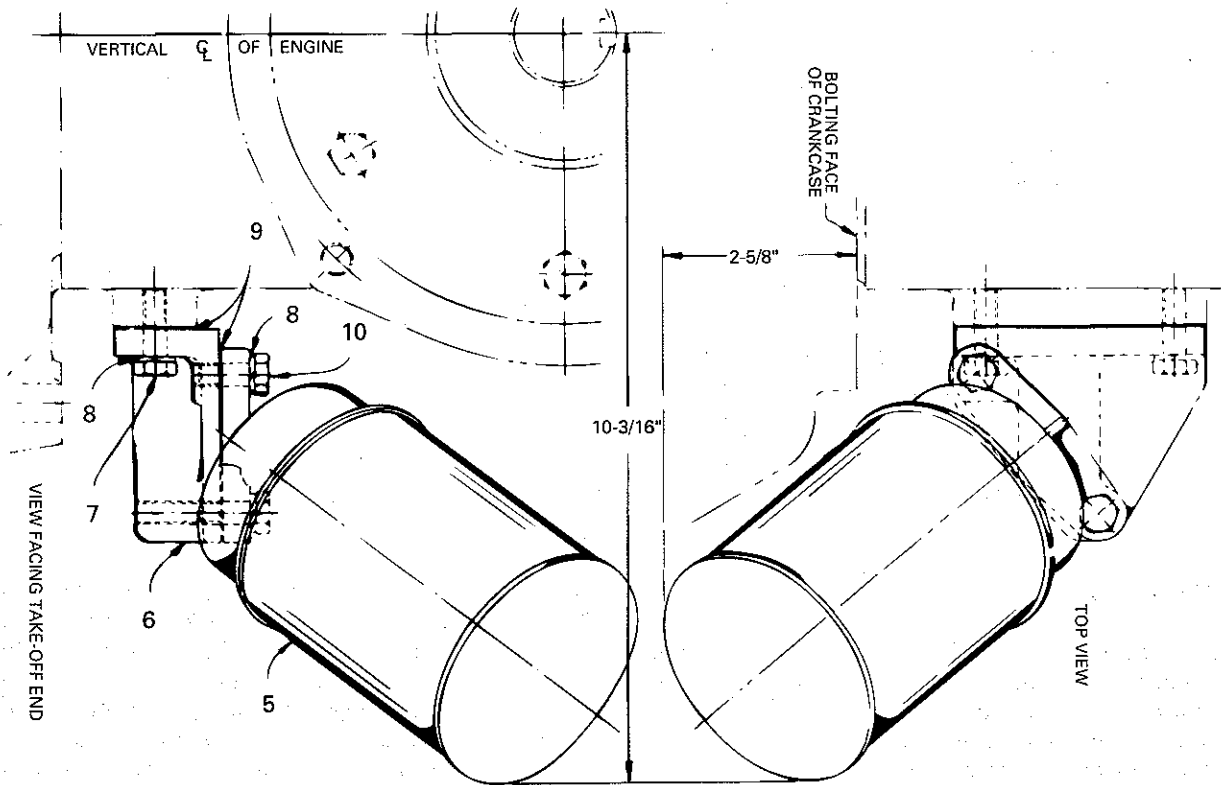
Be sure to thoroughly clean off gasket surface on crankcase oil filter mounting pad.

Using new gaskets (6), mount the oil filter adapter (6) to the crankcase and the oil filter (5) to the adapter, by means of the cap screws (7, 10) and lock washers (8).

The oil filter cartridge should be replaced after every other oil change. If operating conditions are extremely dusty, replace cartridge after every oil change.

RV40KA Oil Filter Kit With Angle Adapter (Obsolete)

USE WITH MODELS VE4D, VF4D, VH4D OPEN ENGINES
(With electrical equipment and no. 5 S.A.E. bell housing)



ITEM	PART NO.	DESCRIPTION	QTY
1	PG556	Clamp	1
2	XA36	Screw, 1/4"-20 thread x 3/4" long	1
3	PE3	Lock washer, 1/4"	1
4	PH84	Washer, 1/4" I.D. x 1/2" O.D.	1
5	RV40A1	Oil filter base	1
—	RV40S4	Cartridge, 4-pack	1
—	QD685	Cartridge gasket	1
6	TB140	Adapter	1
7	XD17	Screw,	2
		5/16"-18 thread x 1" long	2
8	PE4	Lock washer, 5/16"	4
9	QD595A	Gasket	2
10	XD15	Screw, 5/16"-18 thread x 3/4" long	2

Reference Sheet

LOW OIL PRESSURE SWITCH KIT

	Magneto Ignition	Battery Ignition	Engine Model
MY71	YC48S3	YC50S3	TE, TF, THD
MY66	YC48S1	YC50S1	VE4D, VF4D, VH4D
MY70	YC48S2	YC50S2	VG4D
MY72	YC48S4	YC50S4	VR4D
VY111		YC82 (switch only)	V465D

OIL FILTER KITS

MR10 RV29K for VE4D, VF4D, VH4D Open Engines with Electrical Equipment
 MR10-3 RV40K for VE4D, VF4D, VH4D Open Engines with Electrical Equipment
 MR11-2 RV40KA for VE4D, VF4D, VH4D Open Engines with Electrical Equipment (with Angle Adapter to clear No. 5 Bell Housing)

RV40K replaced RV29K (Cartridge Mounting Thread Changed, Interchangeable as complete Kit only)
 RV52K replaced RV40K

YC48S1 (Magneto Ignition), YC50S1 (Battery Ignition) Low Oil Pressure Shut-Off Switches

USE WITH MODELS VE4D, VF4D, VH4D

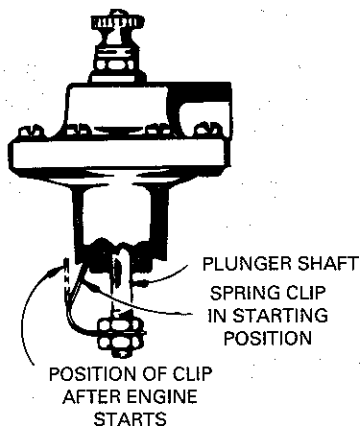


Fig. 1. YC48 Low oil pressure switch for engines with magneto ignition

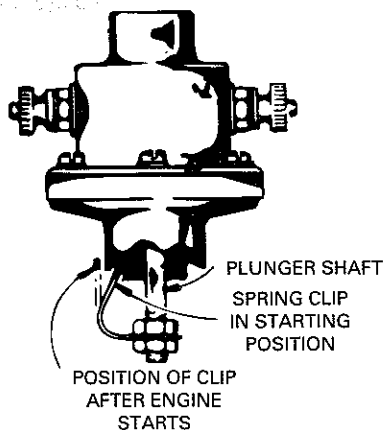


Fig. 2. YC50 Low oil pressure switch for engines with battery ignition

DESCRIPTION

If the engine oil pump cannot maintain a suitable pressure for proper lubrication, the oil pressure switch will automatically shut off the engine, before severe damages would be incurred. The low oil pressure could be attributed to a clogged oil pump intake, or an extremely low crankcase oil level.

This safety feature will help to eliminate the possibilities of burned out connecting rod and crankshaft bearings as well as the warping of pistons and valves.

Two different switches are available for installation on these models of engines: Wisconsin Motor no. YC48 (C.D.S. type "R"), single terminal switch for engines with magneto ignition, as shown in Fig. 1, and YC50 (C.D.S. type "A"), two terminal switch for engines with battery ignition, illustrated in Fig. 2.

INSTALLATION

For engines with magneto ignition, use a YC48S1 oil pressure switch kit. Mount switch as follows (see Fig. 3, page 12):

1. Remove complete oil filter from side of crankcase.
2. Remove and discard slotted pipe plug from the oil header tube, on the left hand side of the crankcase, nearest to the the take-off end of the engine. In its place, mount RF1096 elbow. It is suggested that some type of thread sealer be used in making all pipe connections to prevent any oil leaks.
3. Mount bent pipe nipple, RF1209A, to elbow and attach oil pressure switch YC48 to end of pipe nipple.
4. Connect ground wire, YL111, from terminal on oil pressure switch to ground switch stud on magneto.
5. Reassemble oil filter to crankcase, using spacer plate, SA65A2, between crankcase and oil filter. Use new gaskets, QD595A, one on each side of the spacer plate.

YC48S1 (Magneto Ignition), YC50S1 (Battery Ignition) Low Oil Pressure Shut-Off Switches (Cont.)

USE WITH MODELS VE4D, VF4D, VH4D

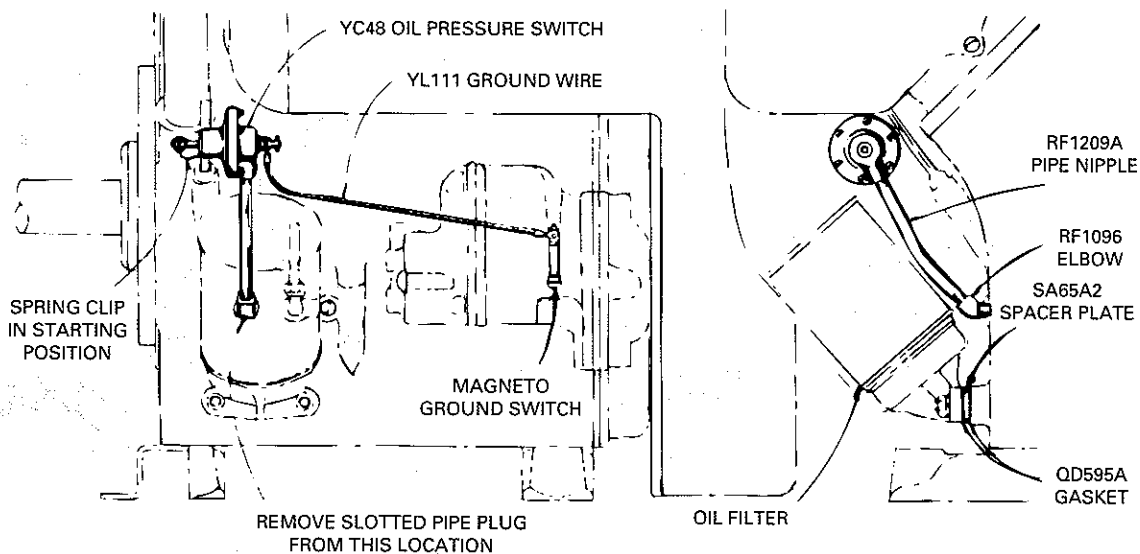


Fig. 3. Oil pressure switch mounting, with magneto ignition

For engines with battery ignition, distributor, use a YC50S1 oil pressure switch kit. Mount switch as follows (see Fig. 4, page 13):

1. If ignition coil and bracket are mounted at position shown in Fig. 4, remove same, from side of crankcase, for ease in making pipe connections.
2. Remove and discard slotted pipe plug from left hand side of the crankcase, nearest to the take-off end of engine. In its place, mount street ell, XK38. It is suggested that some type of thread sealer be used in making all pipe connections, to prevent oil leaks.
3. Mount pipe nipple, RF902, to street ell, and mount elbow, RF996, to pipe nipple.

4. Mount other street ell, XK38, to elbow and attach oil pressure switch, YC50, to street ell.
5. Assemble ignition coil back on engine, if it was removed. Discard original ignition wire from ignition coil to distributor. Connect ignition wire, YL188, from oil pressure switch terminal to distributor, and connect YL111 wire, from the other terminal on oil pressure switch, to ignition coil.

The installation of the oil pressure switch is complete and the engine is ready to be started.
operation

YC48S1 (Magneto Ignition), YC50S1 (Battery Ignition) Low Oil Pressure Shut-Off Switches (Cont.)

USE WITH MODELS VE4D, VF4D, VH4D

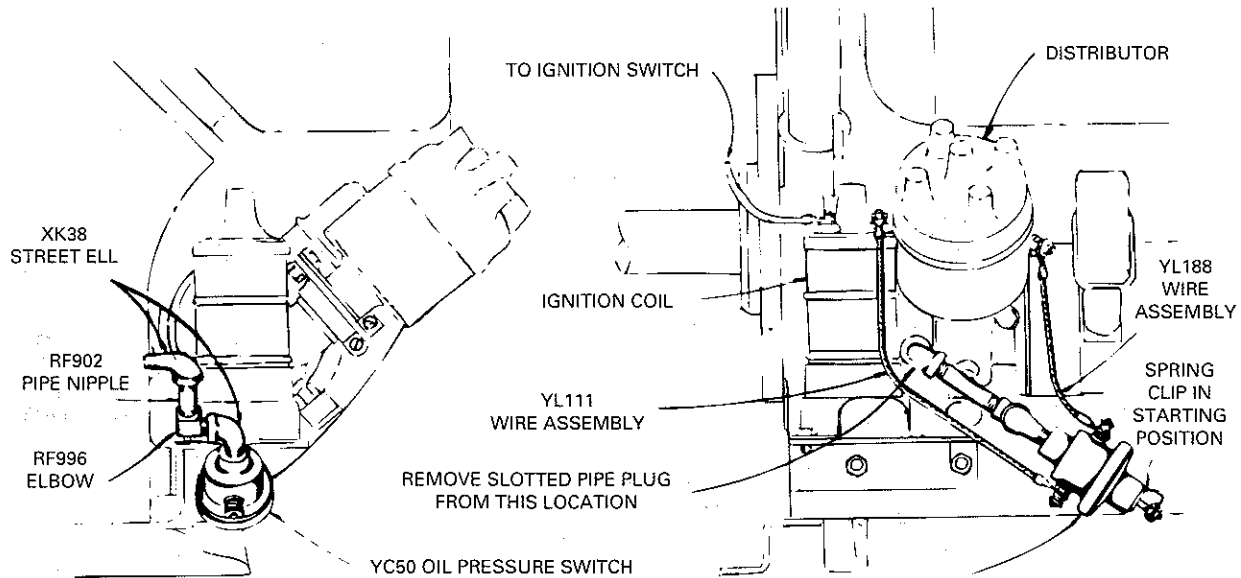


Fig. 4. Oil pressure switch mounting, with battery ignition, distributor

OPERATION

At normal operating temperature, the oil pressure for these models of engines is from 4 to 5 pounds per square inch (p.s.i.). The oil pressure switch is set to operate at 1 p.s.i.; therefore, when the oil pressure falls below 1 p.s.i., the switch, as shown in Fig. 1, closes the ground circuit to the magneto and stops the engine.

The switch illustrated in Fig. 2 for battery ignition opens the circuit between the ignition coil and distributor, when the engine oil pressure falls below 1 p.s.i. and thus stops the engine.

Before attempting to start engines equipped with low oil pressure switch, either with magneto or battery ignition, the spring clip must be inserted in the recess at the bottom of the switch. This can be accomplished by pulling out on the plunger shaft, about 1/16", and then inserting the spring clip in the recess, as illustrated in Figures 1 and 2.

The spring clip will "kick out" after the engine starts and the oil pressure builds up to 1-1/2 p.s.i. This procedure of placing the spring clip in the recess will have to be done before each time the engine is started.

YC48S1 LOW OIL PRESSURE SWITCH KIT

QD595A	Oil filter spacer gasket (2)
RF1096	Elbow for crankcase
RF1209A	Pipe nipple
SA65B1	Spacer
YC48	Oil pressure switch, C.D.S. type "R"
YL352-11	Wire assembly, 9" long

YC50S1 LOW OIL PRESSURE SWITCH KIT

RF902	Pipe nipple, 1/8" x 2" long
RF996	Elbow
YC50	Oil pressure switch, C.D.S. type "A"
YL352-11	Wire assembly, 9" long
YL188	Wire assembly, 8" long
XK38	Street ell (2)

YC48S2 (Magneto Ignition), YC50S2 (Battery Ignition) Low Oil Pressure Shut-Off Switches

USE WITH MODEL VG4D

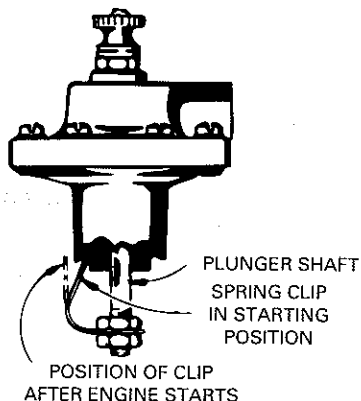


Fig. 1. YC48 Low oil pressure switch for engines with magneto ignition

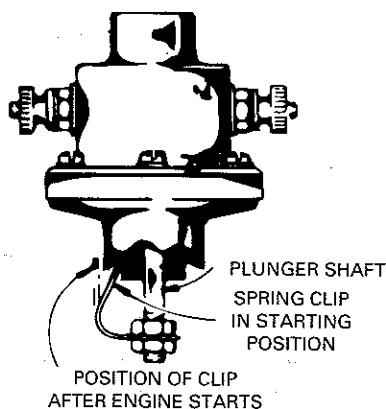


Fig. 2. YC50 Low oil pressure switch for engines with battery ignition

DESCRIPTION

If the engine oil pump cannot maintain a suitable pressure for proper lubrication, the oil pressure switch will automatically shut off the engine, before severe damages would be incurred. The low oil pressure could be attributed to a clogged oil pump intake, or an extremely low crankcase oil level.

This safety feature will help to eliminate the possibilities of burned out connecting rod and crankshaft bearings as well as the warping of pistons and valves.

Two different switches are available for installation on these models of engines: Wisconsin Motor no. YC48 (C.D.S. type "R"), single terminal switch for engines with magneto ignition, as shown in Fig. 1, and YC50 (C.D.S. type "A"), two terminal switch for engines with battery ignition, illustrated in Fig. 2.

INSTALLATION

For engines with magneto ignition, use a YC48S2 oil pressure switch kit. Mount switch as follows (see Fig. 3, page 15):

1. Remove oil filter cartridge from side of crankcase.
2. Disconnect oil line to governor and remove and discard elbow from the oil header tube, on the left hand side of the crankcase, nearest to the take-off end of the engine. In its place, mount RF794A pipe nipple. It is suggested that some type of thread sealer be used in making all pipe connections to prevent any oil leaks.
3. Mount XK63 tee to pipe nipple. Assemble RF269 straight fitting to tee and connect oil line to straight fitting.
4. Mount the other RF794A pipe nipple to tee and attach oil pressure switch YC48, to end of pipe nipple.
5. Connect ground wire, YL188, form terminal on oil pressure switch to ground switch stud on magneto.
6. Replace oil filter cartridge.

YC48S2 (Magneto Ignition), YC50S2 (Battery Ignition) Low Oil Pressure Shut-Off Switches (Cont.)

USE WITH MODEL VG4D

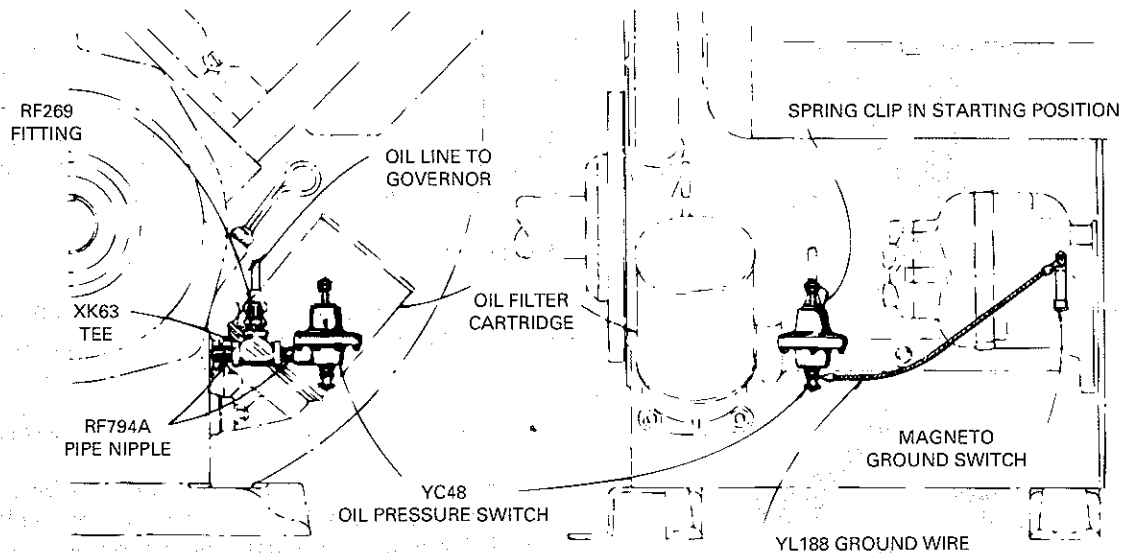


Fig. 3. Oil pressure switch mounting, with magneto ignition

For engines with battery ignition, distributor, use a YC50S2 oil pressure switch kit. Mount switch as follows (see Fig. 4, page 16):

1. If the ignition coil is mounted below the generator, at the position shown in Fig. 4, remove same, from side of crankcase and mount to lower cylinder shroud, as shown. On power units, the coil is mounted to the inside of the front house panel and can be left in this location.
2. Remove oil filter from side of crankcase, for ease in making pipe connections.
3. Disconnect oil line to governor and remove elbow from the oil header tube, on the left hand side of the crankcase, nearest to the take-off end of the engine. In its place, mount XK38 street ell. It is suggested that some type of pipe thread sealer be used in making all pipe connections, to prevent oil leaks.
4. Mount pipe nipple, RF934, to street ell, and mount XK63 tee to pipe nipple.
5. Assemble elbow, previously removed from oil header, to tee. Mount governor oil line to elbow in tee.
6. Mount RF794 pipe nipple to open end of tee. Attach oil pressure switch, YC50, to end of pipe nipple.
7. Discard original ignition wire from distributor to coil. Connect YL162 ignition wire from oil pressure switch terminal to distributor, and connect YL135 wire from other terminal on oil pressure switch, to positive terminal on ignition coil.
8. Reassemble oil filter.

The installation of the oil pressure switch is complete and the engine is ready to be started.

YC48S2 (Magneto Ignition), YC50S2 (Battery Ignition) Low Oil Pressure Shut-Off Switches (Cont.)

USE WITH MODEL VG4D

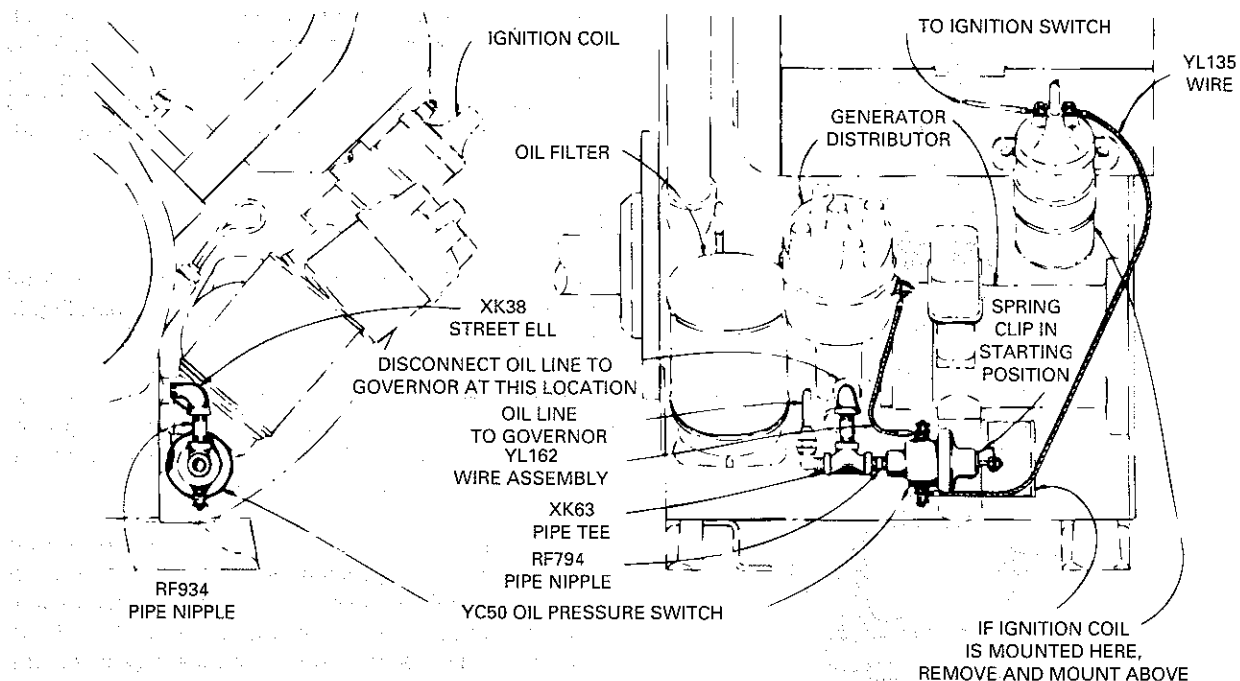


Fig. 4. Oil pressure switch mounting, with battery ignition, distributor

OPERATION

At normal operating temperature, the oil pressure for this model of engine is from 4 to 5 pounds per square inch (p.s.i.). The oil pressure switch is set to operate at 1 p.s.i.; therefore, when the oil pressure falls below 1 p.s.i., the switch, as shown in Fig. 1, closes the ground circuit to the magneto and stops the engine.

The switch illustrated in Fig. 2 for battery ignition opens the circuit between the ignition coil and distributor, when the engine oil pressure falls below 1 p.s.i. and thus stops the engine.

Before attempting to start an engine equipped with a low oil pressure switch, either with magneto or battery ignition, the spring clip must be inserted in the recess at the bottom of the switch. This can be accomplished by pulling out on the plunger shaft, about 1/16", and then inserting the spring clip in the recess, as illustrated in Figures 1 and 2.

The spring clip will "kick out" after the engine starts and the oil pressure builds up to 1-1/2 p.s.i. This procedure of placing the spring clip in the recess will have to be done before each time the engine is started.

YC48S2 LOW OIL PRESSURE SWITCH KIT

RF269	Straight fitting
RF794	Pipe nipple, 1/8" x 3/4" long (2)
XK63	Pipe tee, 1/8"
YC48	Oil pressure switch, C.D.S. type "R"
YL352-11	Wire assembly, 8" long

YC50S2 LOW OIL PRESSURE SWITCH KIT

RF794	Pipe nipple, 1/8" x 3/4" long
RF934	Pipe nipple, 1/8" x 1" long
XK38	Street ell, 1/8" x 90°
XK63	Pipe tee, 1/8"
YC50	Oil pressure switch, C.D.S. type "A"
YL352-26	Wire assembly, 24" long
YL352-11	Wire assembly, 10" long

YC48S3 (Magneto Ignition), YC50S3 (Battery Ignition) Low Oil Pressure Shut-Off Switches

USE WITH MODELS TE, TF, THD

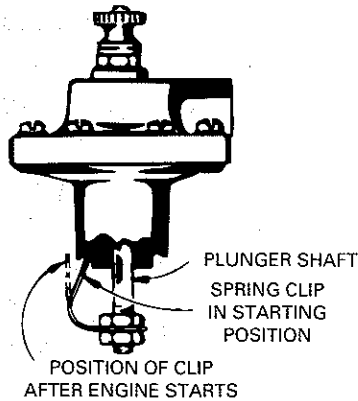


Fig. 1. YC48 Low oil pressure switch for engines with magneto ignition

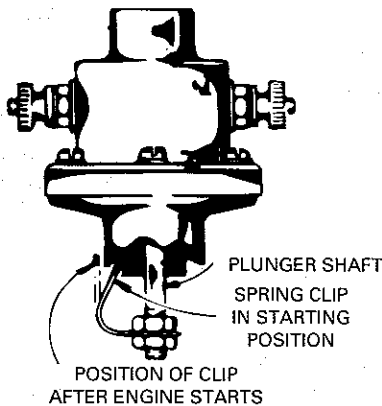


Fig. 2. YC50 Low oil pressure switch for engines with battery ignition

DESCRIPTION

If the engine oil pump cannot maintain a suitable pressure for proper lubrication, an oil pressure switch will automatically shut off the engine, before severe damages would be incurred. Low oil pressure can be attributed to a clogged oil pump intake, or an extremely low crankcase oil level.

The safety feature of a low oil pressure switch will help to eliminate the possibilities of burned out connecting rod and crankshaft bearings as well as the warping of pistons and valves.

Two different switches are available for installation on these models of engines: Wisconsin Motor no. YC48 (C.D.S. type "R"), single terminal switch for engines with magneto ignition, as shown in Fig. 1, and YC50 (C.D.S. type "A"), two terminal switch for engines with battery ignition, illustrated in Fig. 2.

INSTALLATION

For engines with magneto ignition, use a YC48S1 oil pressure switch kit. Mount switch as follows (see Fig. 3, page 18):

1. Remove and discard slotted pipe plug from oil header on right hand side of crankcase, below the magneto. In its place, mount RF794A1 pipe nipple, with the metered hole toward the outside.
2. It will be necessary to remove the magneto in order to mount the oil pressure switch. First, disconnect spark plug wires and remove timing inspection plug from gear cover. Turn the engine over with the hand crank until the X mark on the magneto gear is in the center of the timing inspection hole. Leave engine in this position and remove magneto.
3. Mount YC48 oil pressure switch to pipe nipple, in position shown in Fig. 3.
4. Reassemble magneto to gear cover with the X marked gear tooth visible through the timing inspection hole. Mount inspection hole plug and connect spark plug wires. After completing installation of oil pressure switch kit, check engine to see if magneto timing is accurate.
5. Connect ground wire, YL132 from terminal on oil pressure switch to ground switch stud on magneto.

**YC48S3 (Magneto Ignition), YC50S3 (Battery Ignition)
Low Oil Pressure Shut-Off Switches (Cont.)**

USE WITH MODELS TE, TF, THD

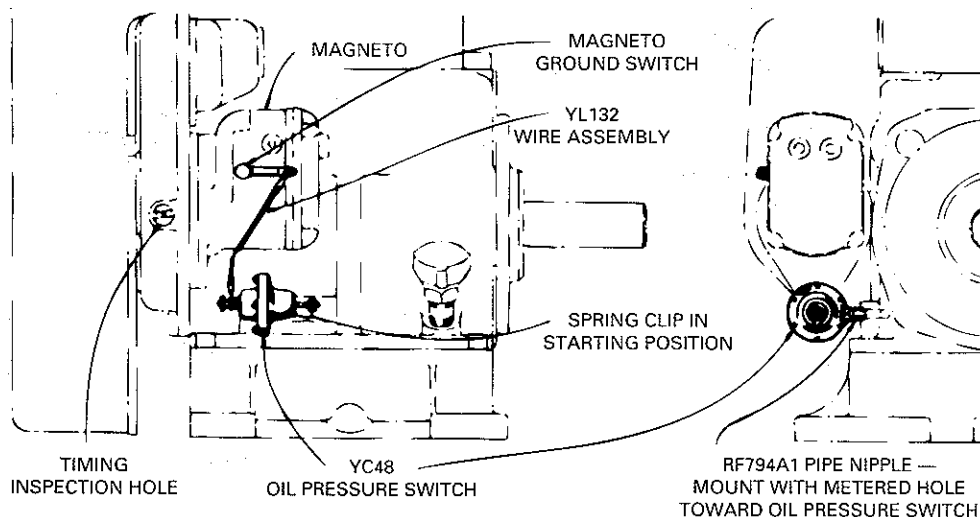


Fig. 3. Oil pressure switch mounting, with magneto ignition

For engines with battery ignition, distributor, use a YC50S3 oil pressure switch kit. Mount switch as follows (see Fig. 4, page 19):

1. Remove and discard slotted pipe plug from oil header on right hand side of crankcase, below the generator. In its place, mount RF903-2 pipe nipple, with the metered hole toward the outside.
2. Mount YC50 oil pressure switch to pipe nipple, in position shown in Fig. 4.

3. Discard original ignition wire from ignition coil to distributor. Connect ignition wire, YL111, from oil pressure switch terminal to distributor, and connect YL134 wire from the other terminal on oil pressure switch to positive terminal on ignition coil.

The installation of the oil pressure switch is complete and the engine is ready to be started.

YC48S3 (Magneto Ignition), YC50S3 (Battery Ignition) Low Oil Pressure Shut-Off Switches (Cont.)

USE WITH MODELS TE, TH, THD

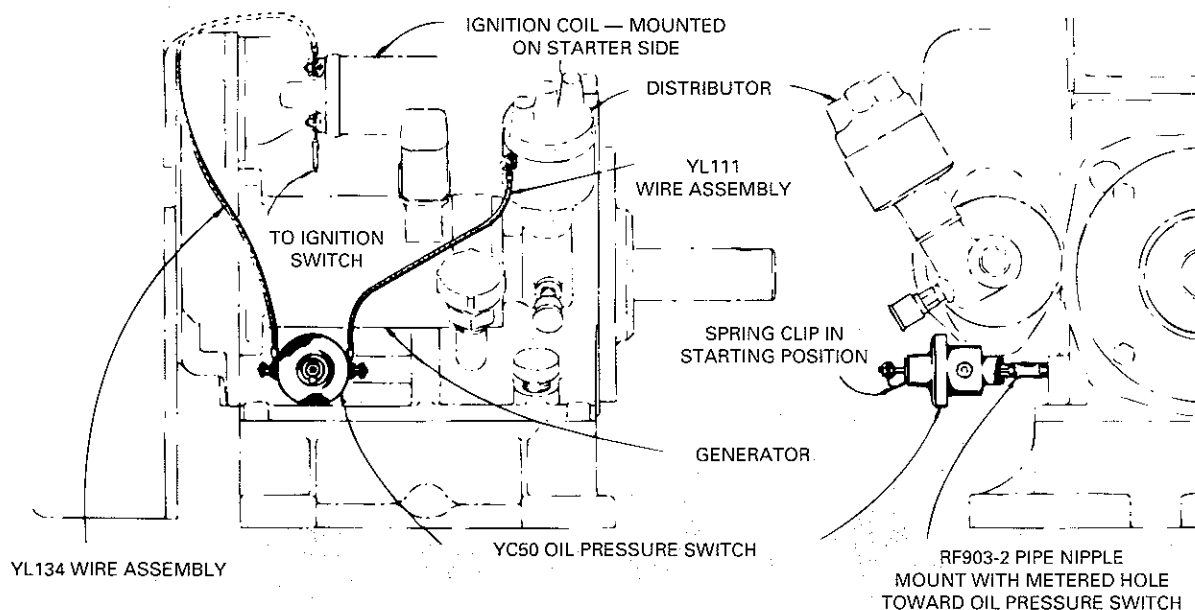


Fig. 4. Oil pressure switch mounting, with battery ignition, distributor

OPERATION

At normal operating temperature, the oil pressure for these models of engines is from 3 to 5 pounds per square inch (p.s.i.). The oil pressure switch is set to operate at 1 p.s.i.; therefore, when the oil pressure falls below 1 p.s.i., the switch, as shown in Fig. 1, closes the ground circuit to the magneto and stops the engine.

The switch illustrated in Fig. 2, for battery ignition opens the circuit between the ignition coil and distributor, when the engine oil pressure falls below 1 p.s.i. and thus stops the engine.

Before attempting to start engines equipped with low oil pressure switch, either with magneto or battery ignition, the spring clip must be inserted in the recess at the bottom of the switch. This can be accomplished by pulling out on the plunger shaft, about 1/16", and then inserting the spring clip in the recess, as illustrated in Figures 1 and 2.

The spring clip will "kick out" after the engine starts and the oil pressure builds up to 1-1/2 p.s.i. This procedure of placing the spring clip in the recess will have to be done before each time the engine is started.

YC48S3 LOW OIL PRESSURE SWITCH KIT

RF1218B Pipe nipple (special)
YC48 Oil pressure switch, C.D.S. type "R"
YL352-8 Wire assembly, 6" long

YC50S3 LOW OIL PRESSURE SWITCH KIT

RF903-2 Pipe nipple (special)
YC50 Oil pressure switch, C.D.S. type "A"
YL352-11 Wire assembly, 9" long
YL352-23 Wire assembly, 22" long

YC48S4 (Magneto Ignition), YC50S4 (Battery Ignition) Low Oil Pressure Shut-Off Switches

USE WITH MODEL VR4D

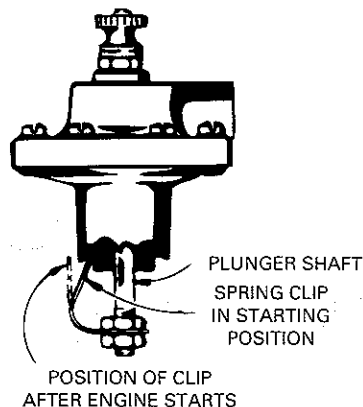


Fig. 1. YC48 Low oil pressure switch for engines with magneto ignition

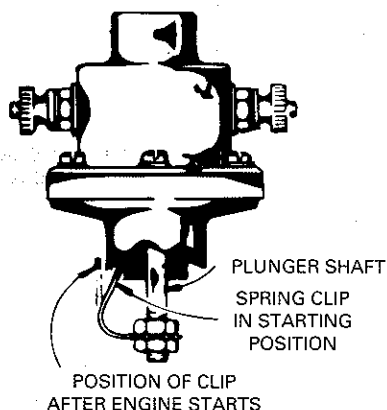


Fig. 2. YC50 Low oil pressure switch for engines with battery ignition

DESCRIPTION

If the engine oil pump cannot maintain a suitable pressure for proper lubrication, an oil pressure switch will automatically shut off the engine, before severe damages would be incurred. Low oil pressure can be attributed to a clogged oil pump intake, or an extremely low crankcase oil level.

The safety feature of a low oil pressure switch will help to eliminate the possibilities of burned out connecting

rod and crankshaft bearings as well as the warping of pistons and valves.

Two different switches are available for installation on these models of engines: Wisconsin Motor no. YC48 (C.D.S. type "R"), single terminal switch for engines with magneto ignition, as shown in Fig. 1, and YC50 (C.D.S. type "A"), two terminal switch for engines with battery ignition, illustrated in Fig. 2.

INSTALLATION

For engines with magneto ignition, use a YC48S4 oil pressure switch kit. Mount switch as follows (see Fig. 3, page 21):

1. Remove complete oil filter from side of crankcase.
2. Disconnect oil line from governor and remove elbow from the oil header, on the left hand side of the crankcase, nearest to the take-off end of the engine. In its place, mount XK38 street ell. It is suggested that some type of thread sealer be used in making all pipe connections to prevent oil leaks.
3. Mount pipe nipple, RF794, to street ell and attach XK63 tee to pipe nipple. Mount tubing elbow, previously removed from crankcase, to opposite end of tee. Connect oil line from governor to elbow.
4. Mount other RF794 pipe nipple to center tap in tee. Attach oil pressure switch, YC48, to end of pipe nipple, as shown in Fig. 3.
5. Connect ground wire, YL109, from terminal on oil pressure switch, to ground switch stud on magneto.
6. Reassemble oil filter to crankcase.

**YC48S4 (Magneto Ignition), YC50S4 (Battery Ignition)
Low Oil Pressure Shut-Off Switches (Cont.)**

USE WITH MODEL VR4D

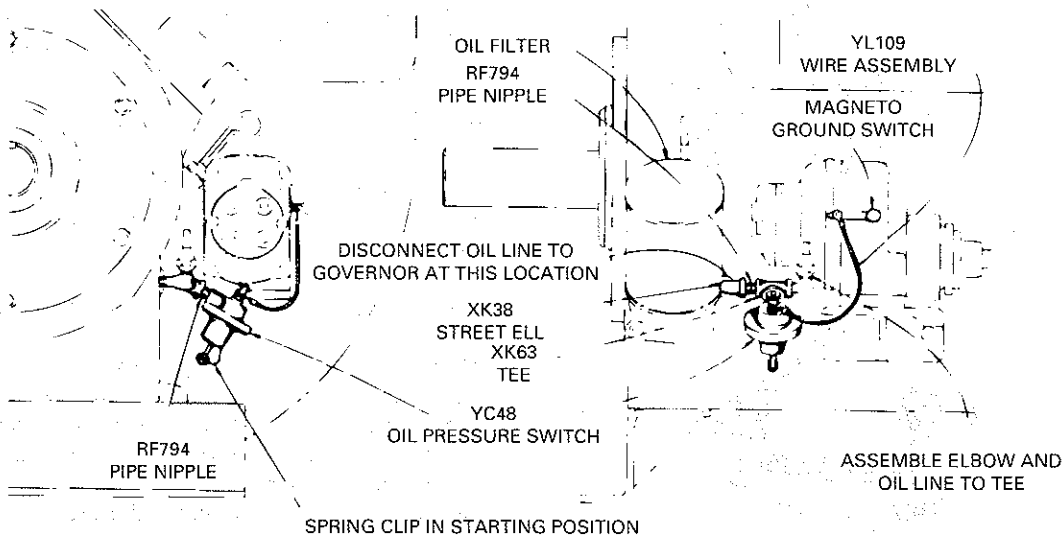


Fig. 3. Oil pressure switch mounting, with magneto ignition

For engines with battery ignition, distributor, use a YC50S4 oil pressure switch kit. Mount switch as follows (see Fig. 4, page 22):

1. Remove complete oil filter from side of crankcase.
2. Disconnect oil line from governor and remove elbow from oil header on the left hand side of the crankcase, nearest to the take-off end of the engine. In its place, mount XK38 street ell. It is suggested that some type of thread sealer be used in making all pipe connections, to prevent oil leaks.
3. Mount pipe nipple, RF794, to street ell and attach XK63 tee to pipe nipple. Mount tubing elbow, previously removed from crankcase, to opposite end of tee. Connect oil line from governor, to elbow.
4. Mount other RF794 pipe nipple to center tap in tee. Attach oil pressure switch, YC50, to end of pipe nipple.
5. Discard original ignition wire, from ignition coil to distributor. Connect ignition wire, YL151, from oil pressure switch terminal to distributor, and connect YL111 wire, from the other terminal on oil pressure switch, to positive terminal on ignition coil.

The installation of the oil pressure switch is complete and the engine is ready to be started.

YC48S4 (Magneto Ignition), YC50S4 (Battery Ignition) Low Oil Pressure Shut-Off Switches (Cont.)

USE WITH MODEL VR4D

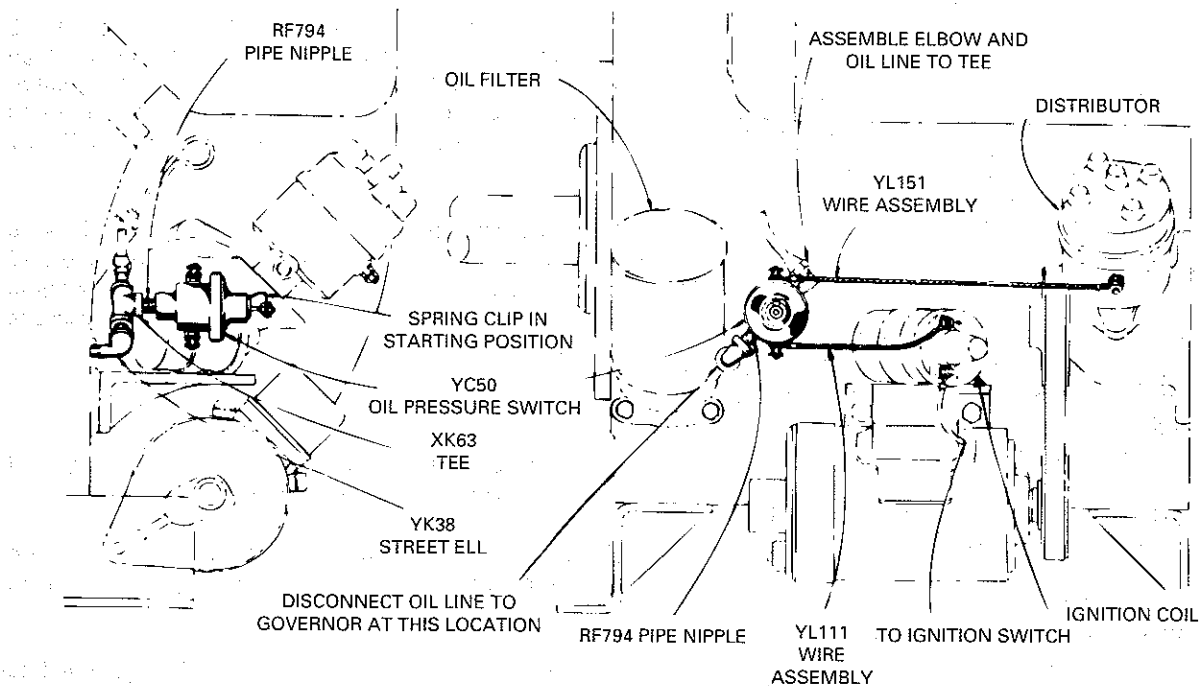


Fig. 4. Oil pressure switch mounting, with battery ignition, distributor

OPERATION

At normal operating temperature, the oil pressure for these models of engines is from 4 to 5 pounds per square inch (p.s.i.). The oil pressure switch is set to operate at 1 p.s.i., therefore; when the oil pressure falls below 1 p.s.i., the switch, as shown in Fig. 1, closes the ground circuit to the magneto and stops the engine.

The switch illustrated in Fig. 2 for battery ignition opens the circuit between the ignition coil and distributor, when the engine oil pressure falls below 1 p.s.i. and thus stops the engine.

Before attempting to start engines equipped with low oil pressure switch, either with magneto or battery ignition, the spring clip must be inserted in the recess at the bottom of the switch. This can be accomplished by pulling out on the plunger shaft, about 1/16", and then inserting the spring clip in the recess, as illustrated in Figures 1 and 2.

The spring clip will "kick out" after the engine starts and the oil pressure builds up to 1-1/2 p.s.i. This procedure of placing the spring clip in the recess will have to be done before each time the engine is started.

YC48S4 LOW OIL PRESSURE SWITCH KIT

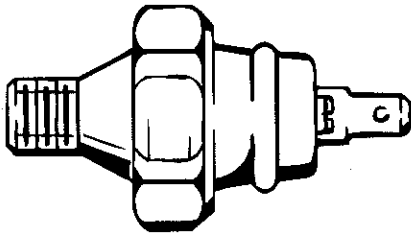
RF794	Pipe nipple, 1/8" x 3/4" long (2)
XK38	Street ell, 1/8" x 90°
XK63	Pipe tee, 1/8"
YC48	Oil pressure switch, C.D.S. type "R"
YL352-8	Wire assembly, 6" long

YC50S4 LOW OIL PRESSURE SWITCH KIT

RF794	Pipe nipple, 1/8" x 3/4" long (2)
XK38	Street ell, 1/8" x 90°
XK63	Pipe tee, 1/8"
YC50	Oil pressure switch, C.D.S. type "A"
YL352-11	Wire assembly, 9" long
YL352-16	Wire assembly, 14" long

YC82 Low Oil Pressure Switch

USE WITH MODEL V465D (Warning light application or automatic ignition shut-off)



DESCRIPTION

This low oil pressure switch will protect the engine from any sudden drop in oil pressure caused by pump failure or broken oil line, and activate a warning light or shut off the ignition before any serious damages occur to the crankshaft and rod bearings in the engine.

The YC82 switch can be wired into the ignition system to operate in either of two ways:

Warning light application (Fig. 1).

Automatic ignition shut-off (Fig. 2).

A high temperature safety switch (standard equipment) is mounted to the cylinder head near the no. 4 spark plug, but its primary function is to guard against a gradual excessive heat buildup and eventual damage to the engine.

OPERATION

When the engine is thoroughly warmed up and running at 1800 r.p.m. or above, the normal pressure in the high oil pressure system is from 40 to 45 p.s.i., as indicated on the oil pressure gauge. The low oil pressure switch is set to operate when the pressure falls below 10 to 7 p.s.i.

Note: Before installing low oil pressure switch, be sure that oil pressure is normal and does not fall below 15 p.s.i. when engine idles at 1000 r.p.m. Refer to Engine Instruction Manual for information on oil pressure adjustment.

INSTALLATION

For ease of installation remove starting motor, or if possible work from beneath starter.

Refer to Fig. 1 for oil pressure switch set up with warning light, or Fig. 2 for automatic ignition shut-off (without warning light).

1. Remove and discard slotted pipe plug from oil line fitting on side of crankcase.

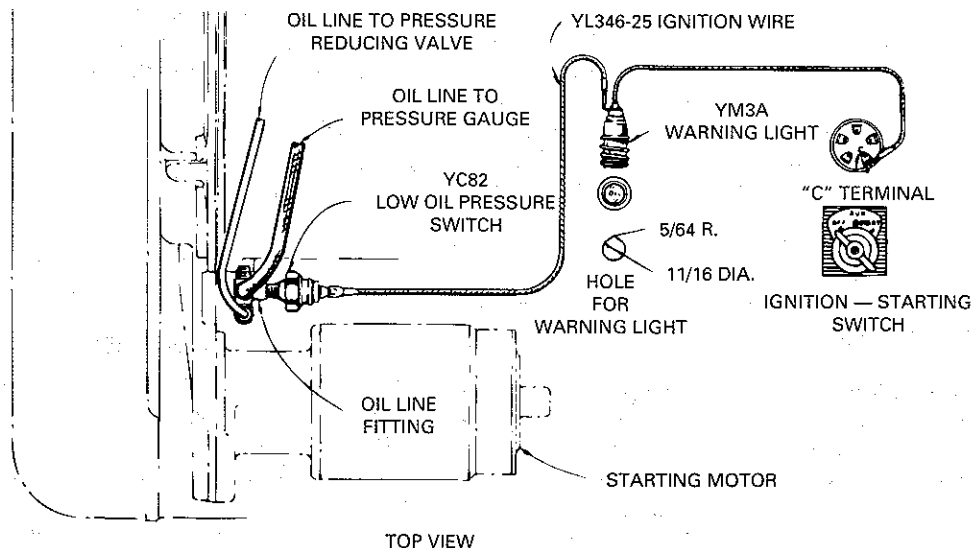


Fig. 1. Oil pressure switch — WARNING LIGHT APPLICATION

YC82 Low Oil Pressure Switch (Cont.)

USE WITH MODEL V465D (Warning light application or automatic ignition shut-off)

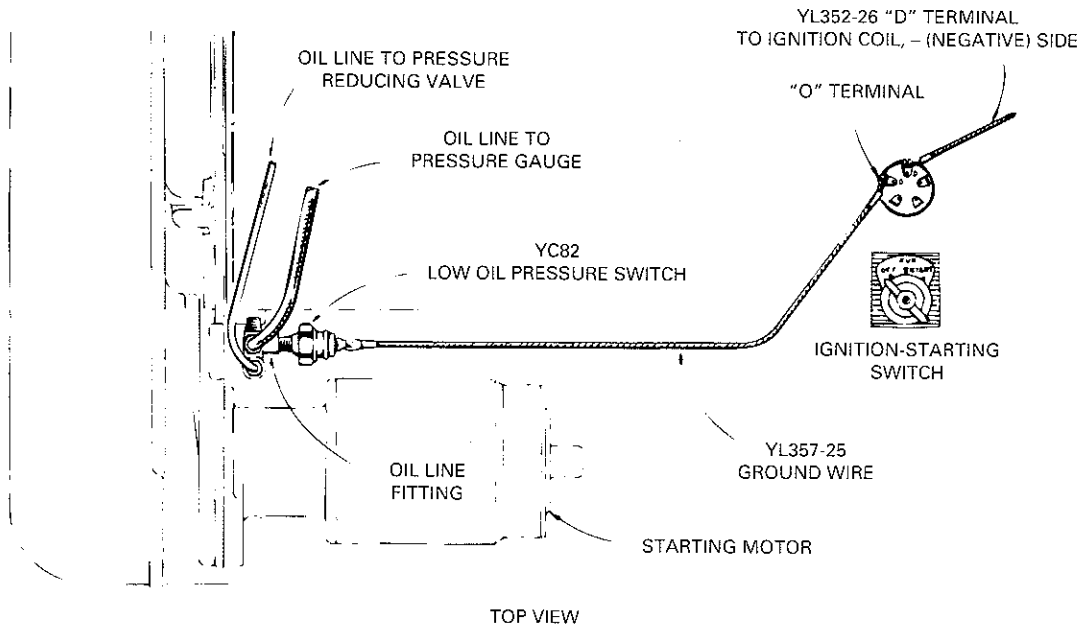


Fig. 2. Oil pressure switch — AUTOMATIC IGNITION SHUT-OFF

2. Mount YC82 switch into pipe plug tap of oil line fitting. Use a thread sealer to prevent oil leaks.
3. For warning lamp application; connect YL346-25 wire from oil switch to YM3A lamp, and connect lamp to "C" terminal on engine ignition-starting switch.
4. For automatic ignition shut-off; connect YL357-25 wire from oil switch to "O" terminal on ignition-starting switch. Connect YL352-26 wire from "D" terminal of ignition-starting switch to negative terminal on ignition coil (distributor side).

TEST OPERATION OF SWITCH

For warning light application: If light goes ON when ignition-starting switch is turned to start position and then goes out within a few seconds after engine starts, then installation is satisfactory.

For automatic ignition shut-off: If engine starts and runs without shorting out and stopping, then installation is satisfactory. If engine starts but fails to run, it may be that engine conditions are such that oil pressure does not build up fast enough to open the pressure switch

ground circuit, and as a result the distributor continues to short out. In this case; turn ignition-starting switch to start position and as soon as engine starts, release switch just enough to disengage starter bendix, but not enough to close the ground circuit. After a few seconds, as oil pressure builds up, release switch to run position.

For any further ignition or oil pressure problems refer to "Troubles, Causes and Remedies" in engine Instruction and Parts Manual.

WARNING LIGHT APPLICATION PARTS

YC82	Low oil pressure switch
YL346-25	Wire assembly
YM3A	Oil warning light assembly, J.W. Hobbs no. MI 2I2509 (Note: Drill mounting hole per Fig. 1.)

AUTOMATIC IGNITION SHUT-OFF PARTS

YC82	Low oil pressure switch
YL357-25	Wire assembly
YL352-26	Wire assembly