

PARTS LIST AND Operating Instructions

Novo Rollr Engines

Four Cylinder U Models

NNU-2 $\frac{3}{4}$ "x4"

FFU-3"x4"

HHU-3 $\frac{3}{8}$ "x4"

RRU-3 $\frac{3}{8}$ "x5"

YYU-3 $\frac{3}{4}$ "x5"

JJU-4 $\frac{1}{8}$ "x5"

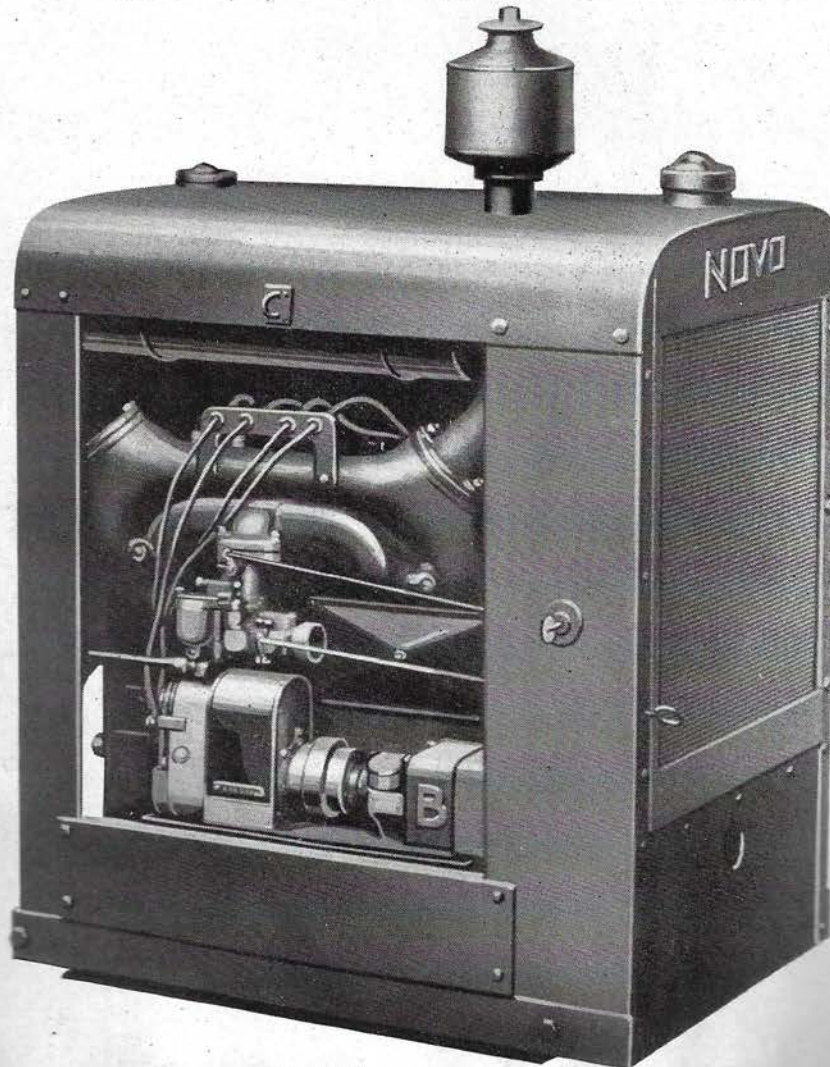


Fig. 1564

NOVO ENGINE CO.

LANSING ~ MICHIGAN

New York

U. S. A.

Chicago

NIAGARA SPRAYER AND CHEMICAL CO., INC.

Printed in U. S. A.

324-Parts List No. 12-36 Four Cylinder U Engines

P. O. BOX 1709

JACKSONVILLE, FLORIDA



Operating Instructions

OILING

Use a good grade of gas engine oil. For summer operation a medium S.A.E. viscosity No. 30, for winter a medium S.A.E. No. 20.

Models NNU, FFU, HHU, Capacity 4 quarts.

Models RRU, YYU, JJU, Capacity 7 quarts.

Pour oil thru tube located in timing gear case cover, late models NNU, FFU, HHU. Models RRU, YYU, JJU and early NNU, FFU and HHU oil tube is located in governor housing. Bayonet gauge for checking oil level is located in inspection plate on side of crankcase. Gauge is marked for high and low levels. Check daily to maintain level at upper mark on gauge.

To Oil Speed Reduction: Lubrication of the speed reductions is entirely separate from engine crankcase and a different grade of oil is required. An oil of S.A.E. viscosity No. 40 is recommended. Pour oil in housing thru hand hole plate opening or pipe plug hole at top of case.

Models NNU, FFU, HHU, Capacity 1½ pints.

Models RRU, YYU, JJU, Capacity 1 gallon.

Fill radiator with clean water, soft is preferable.

Fill fuel tank. Container used for filling should be clean and free from foreign particles.

Models NNU, FFU, HHU, Capacity 7 U.S. gals.

Models RRU, YYU, JJU, Capacity 17 U.S. gals.

All models are equipped with a combination fuel filter and shut off valve, located directly underneath the fuel tank. Be sure to open valve before starting engine. Filter bowl and screen should be removed and cleaned periodically.

Carburetor is gravity feed type. It is adjusted before leaving factory for most efficient operation and should require no further adjustment. Pamphlet of carburetor instructions is furnished separate.

Spark Plugs: Before screwing spark plugs in position, check gap between points. It should not be more than 1/32", the thickness of a thin dime.

Magneto: Attach cables to spark plugs. All models are equipped with impulse coupling which automatically retard the spark for starting, producing a hot spark at slow engine speed and automatically advanced for running, the impulse

operation cutting out at approximately 150 R.P.M. No adjustment is necessary. To clean the impulse assembly flush with kerosene when necessary, then oil impulse parts with light oil. Pamphlet of Magneto instruction is furnished separate.

In case it is necessary to remove the magneto from bracket, it can be reset as follows: Turn crankshaft of engine in running direction until position of No. 1 cylinder, one nearest the radiator, is at upper dead center of the compression stroke. The spark of the magneto occurs the instant the impulse trips. Revolve magneto in running direction, clockwise, to this position and connect magneto to governor shaft. Before securing magneto to bracket, it is best to recheck timing to make certain the spark occurs at upper dead center when turning engine shaft by hand. If check is correct, secure magneto stud nuts and connect cables to spark plugs.

The engine firing order is 1, 3, 4, 2. Looking at the distributor block of the magneto, connect magneto cable on lower outside terminal on the lower terminal which is the farthest away from the engine, to the spark plug of No. 1 cylinder, which is the one nearest the radiator. Following the firing order which is No. 3, connect magneto cable on upper outside terminal, or terminal next to No. 1, to No. 3 cylinder. No. 4 magneto cable, which is upper inside terminal to No. 4 cylinder and No. 2 magneto cable, which is lower inside terminal to No. 2 cylinder.

To Start Engine: Insert key in switch, push key in as far as it will go and turn in either direction.

Close butterfly valve in carburetor partially by pushing throttle control lever toward carburetor. Throttle control lever on models NNU, FFU and HHU is located above carburetor. On models RRU, YYU and JJU throttle control lever is located on housing.

To Start: Place starting crank in position. Pull out choker wire and crank engine shaft to the right. Immediately when engine starts release choker wire. Engine will then pickup to speed at which governor is set.

Should engine stop after releasing choker valve, indicates that engine is not warm enough to operate on normal adjustment. After starting engine as before, hold choker valve part way closed and gradually open as engine warms up and operates smoothly. The colder the engine the more chok-



ing is necessary. This is especially true during cold weather and where unit is operating in the open. If engine is equipped with housing keep doors in place, and while operation during extremely cold weather partially cover radiator.

LUBRICATION

An engine, to operate satisfactorily, must be kept properly lubricated. The manufacturer can provide the proper instructions and the means whereby it is possible to correctly lubricate the engine, but the operator must provide the proper oil and the care necessary to keep the engine properly lubricated. Proper care is what lengthens the life of an engine.

For the grade of oil for summer and winter operation, refer to paragraph No. 1 under "Oiling." There are several good makes of lubricating oil on the market and we suggest that you consult your local distributor.

Crankcase. Periodic draining of the crankcase is one of the most important factors in reducing wear and maintaining maximum efficiency of the engine. On a new engine the oil should be drained after the first fifteen hours of service and every twenty-five working hours thereafter. The proper time to drain the oil is after the engine has been run and is warmed up. When used intermittently in cold weather a certain amount of water condensation or "sweating" will occur in the crankcase. With dirty oil this water will form a soft, gummy emulsion. To insure proper lubrication in cold weather, remove the oil pan and clean out with kerosene every two weeks.

Fan. The grease in the fan shaft bearing should be renewed once a month. For winter operation an SAE No. 40, and for summer 600W is recommended, but any good grade of grease will be satisfactory.

Speed Reductions. Refer to paragraph two under "Oiling." Inspect oil level daily and drain and renew every sixty working days.

CLUTCH

Engine with Clutch Only. Oil clutch shifter collar twice daily thru oiler on clutch housing cover. Oil outer ball bearing thru oiler daily.

Engine with Clutch and Gear Reduction. Oil clutch shifter collar twice daily thru oiler on clutch housing cover. The bearing receives oil from gear reduction and does not require attention. The pilot bearing is packed with a special grease and does not require renewing except at overhaul periods. When overhauling, the pilot bearing and felt should be repacked with a grease similar to Superla 2X grease. Never allow clutch to slip. To adjust or take up wear remove clutch cover, pull out adjusting ring lock pin and turn to the right. After making adjustments, be sure that lock pin is in the nearest hole in clutch pressure plate. Disengage clutch when making adjustments.

COOLING

Radiator capacity models NNU, FFU and HHU 5 U.S. gallons, models RRU, YYU and JJU 10 U.S. gallons.

The radiator must at all times be kept full of water to insure proper circulation. Soft water is most desirable. If soft water is not obtainable we recommend that the system be drained every two weeks and flushed with clean water.

During cold and freezing weather keep radiator partially covered. Either drain, or use non-freezing solution corresponding to the following temperatures:

Water	Alcohol	Temperatures
90%	10%	18 degrees above zero.
85%	15%	11 degrees above zero.
80%	20%	5 degrees above zero.
75%	25%	2 degrees above zero.
70%	30%	9 degrees below zero.
65%	35%	15 degrees below zero.
60%	40%	20 degrees below zero.



VALVES

The valves and seats must always be kept in good condition to prevent the engine from losing compression. Should the engine turn too easily while being cranked, it is evident that compression is being lost past the valves. A clearance of .015" between valve stems and tappets must be maintained on inlet and exhaust valves. After a new engine has been run for some time and the valves and seats are properly worn in, they should be readjusted with engine cold, to this clearance.

To check valve timing, refer to figures. A2765 and A2766, below. Adjust tappet clearance before setting valve. Set exhaust valve to close as indicated in diagram.

GOVERNOR

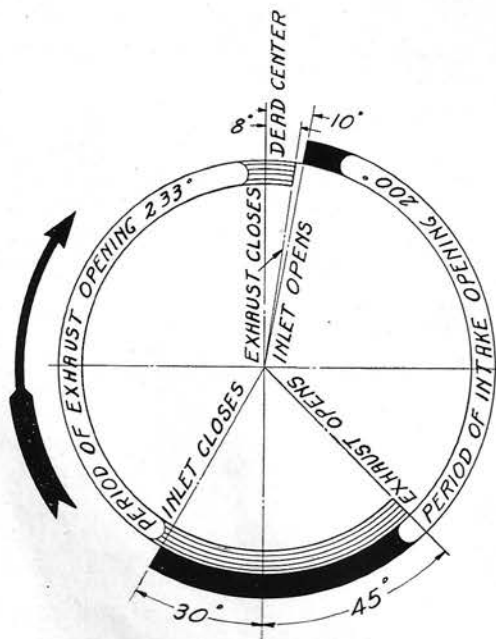
The governor is set for a standard speed of 1200 R.P.M. crankshaft speed unless otherwise specified. The maximum is 1800 R.P.M. The

speed can be raised by increasing the tension on governor rod spring, or lowered by decreasing the spring tension. The tension on governor rod spring is varied by means of adjusting screw and nut.

BEARINGS

The crankshaft and power gearshafts are equipped with tapered roller bearings, which require very little adjustment. However, adjustment is required from time to time and is made evident by end play in the shaft. To take up end play in engine crankshaft, remove the bearing housings at each end of shaft and take off one or more paper shims until excessive end play is eliminated. In the case of power gear shafts, these shims are between the reduction gear housing and the cover.

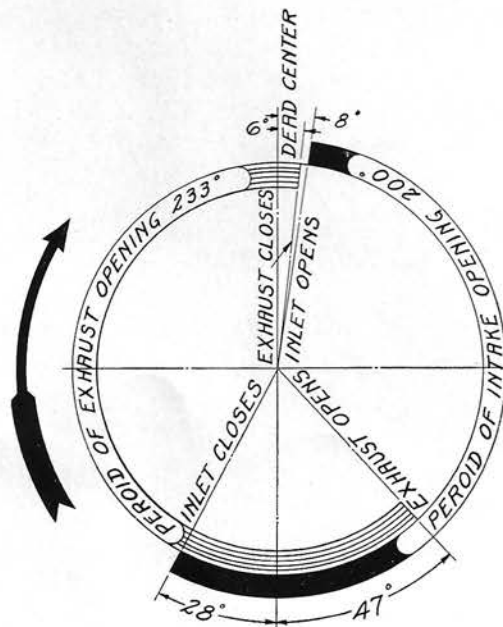
The engine operator should make it a point to check all bearings weekly.



VALVE TIMING

Fig. A2765

Models NNU, FFU, HHU



VALVE TIMING

Fig. A2766

Models RRU, YYU, JJU



Instructions for Ordering Parts

**ALWAYS GIVE MODEL AND SERIAL NUMBER OF ENGINE
WHEN ORDERING REPAIRS**

This parts catalog lists only standard engine parts. So many special items have been supplied to meet different customers' specifications, that it is impractical to list these special parts. However, any special parts originally furnished on engines can be supplied on request.

Accessories, such as magnetos, carburetors, air cleaners, etc. are not listed. These can be supplied, however, upon receipt of order giving model and serial number of engine. Price will be furnished upon application.

This parts list and prices shown hereon supersedes all other lists previously furnished.

Prices are subject to change without notice.

The end of the crankshaft where starting crank is applied is always considered the front of the engine.

Unless otherwise agreed, all parts shipments are f.o.b. Lansing.

Replacement of connecting rods will be handled on an exchange arrangement, provided old rod is returned in usable condition, transportation charges prepaid. Price on exchange will be furnished upon application.

Pistons and piston rings can be supplied from stock in the following sizes, standard, .005", .010", .015", .020", .025", and .030", oversize. Orders for sizes above .030" will be handled as special orders only.

Piston pins will be furnished standard, .005" and .010" oversize only.

RETURN OF PARTS

All claims must be made within three days after date of receipt of shipment. Give our order number against which return is being made and state full details of what is being returned and why.

Transportation charges on return shipments must be prepaid. Return shipments should be tagged showing shipper's name and address.

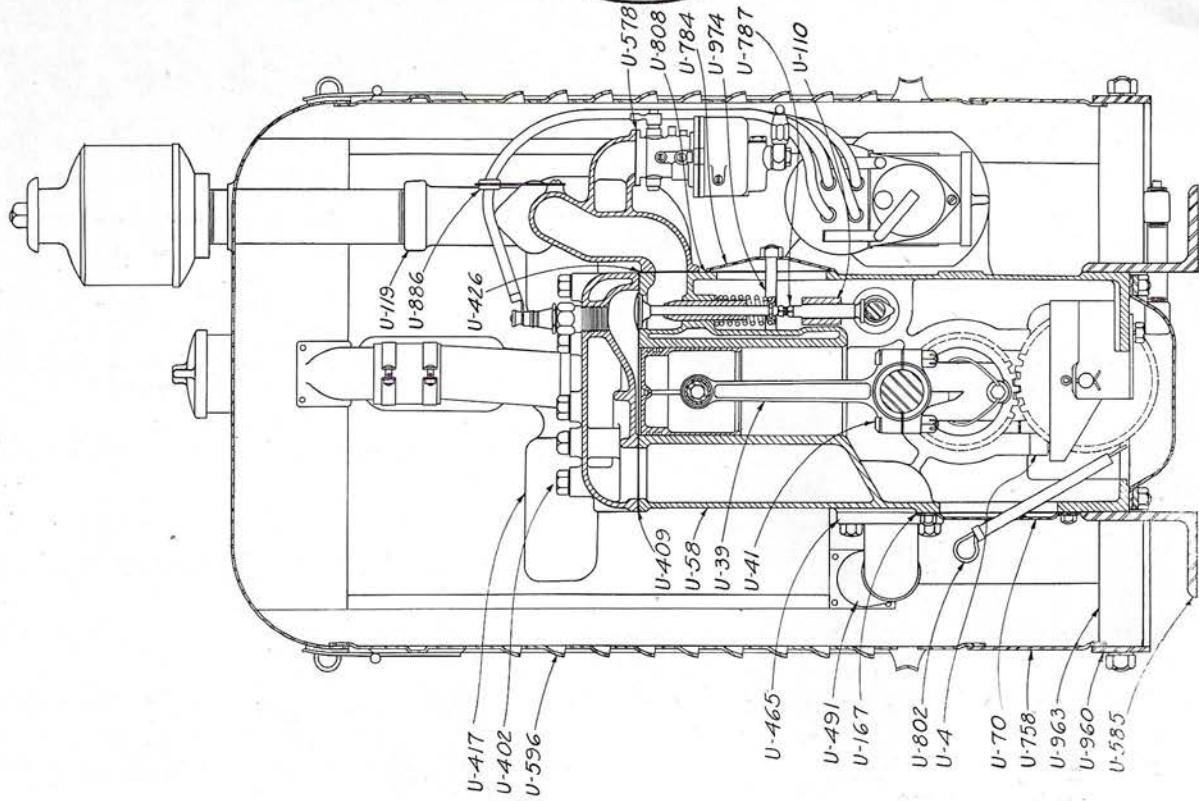
INDEX REFERENCE

Accessories, Magnetos, Carburetors, Air Cleaners or parts thereof are not listed. For replacement of these give engine serial number with order and state plainly what is wanted.

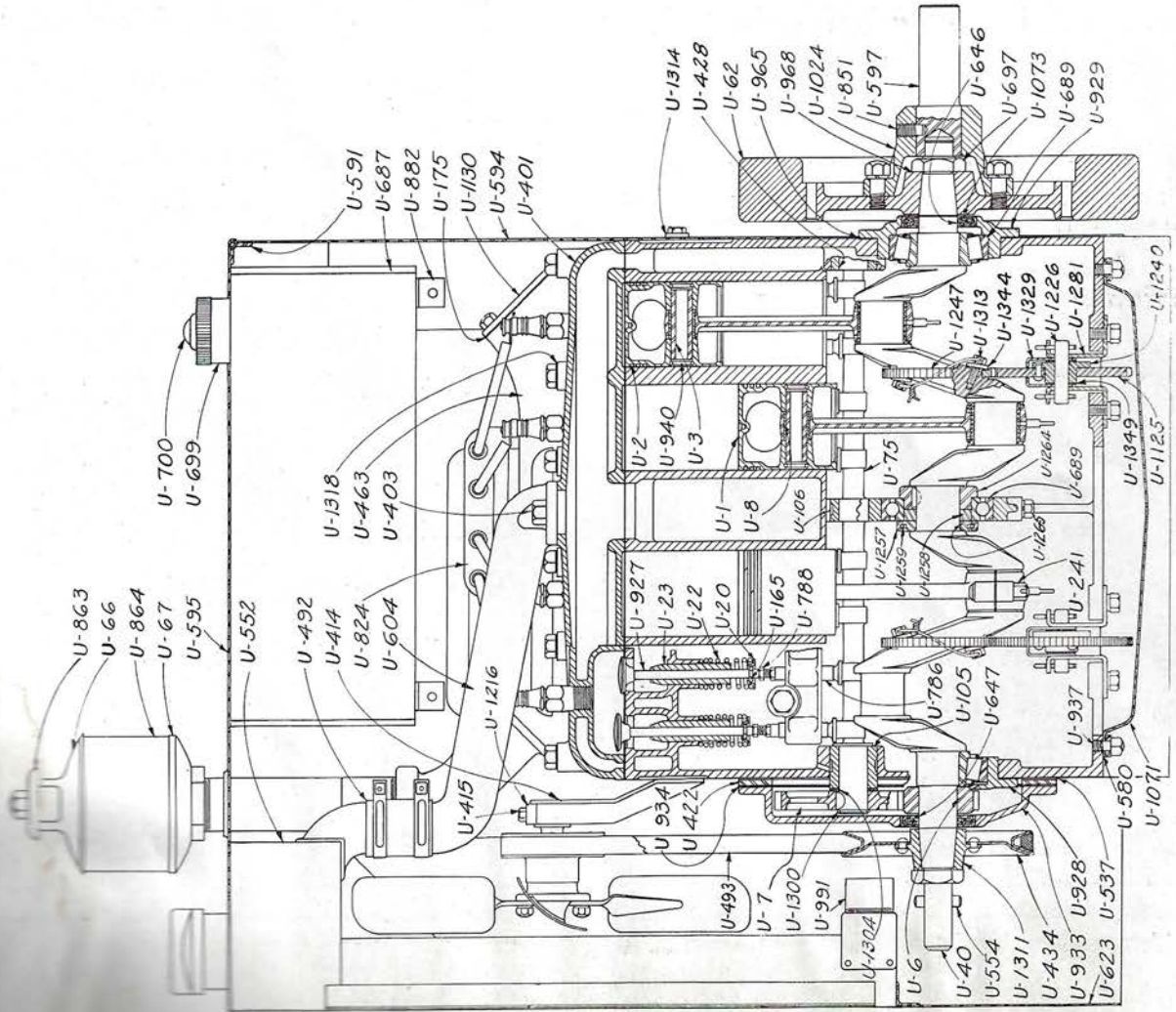
Cam shaft and gear assembly detail, late models, Fig. B1286.....	Page 8
Clutch assembly, Models NNU, FFU, HHU, Fig. C457. Models RRU, YYU, JJU, Fig. D129	Pages 20 to 21
Engine assembly, standard, Fig. D125	Pages 6 to 15
Governor assembly, late model, Fig. B1479	Pages 6 to 15
Governor assemblies, obsolete models, Figs. B1377, B1255, B877.....	Pages 6 to 15
*Impulse coupling for magneto, Figs. B1359, B1135, B737.....	Page 16
Oil pump assembly, obsolete, Fig. B879	Page 8
†Speed reductions, Models NNU, FFU, HHU, Figs. C467, C463, C473, C471, C470	Pages 17 to 19

†Note—Lists applying to Models RRU, YYU and JJU mailed on receipt of application giving engine serial number.

*For Impulse Coupling or Parts used after engine Serial 28759, Models NNU, FFU and HHU, refer to Magneto Parts List.



End View



Side View

Fig. D125 Model U Four Cylinder Engine

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS NNU-FFU-HHU		MODELS RRU-YYU-JJU	
			Symbol	Price	Symbol	Price
U1	Piston only, 2 3/4" diameter, for NNU.....	4	NNU1	2.25	.....	.....
U1	Piston only, 3" diameter, for FFU.....	4	UF1	2.25	.....	.....
U1	Piston only, 3 3/8" diameter, for HHU (used only after engine No. 24385).....	4	HU1A	2.50	.....	.....
U1	Piston only, 3 3/16" diameter, for HHU. Obsolete. (Used previous to engine No. 24386).....	4	HU1	2.50	.....	.....
U1	Piston only, 3 3/8" diameter, for RRU.....	4	.....	.....	RRU1	2.85
U1	Piston only, 3 3/4" diameter, for YYU.....	4	.....	.....	YU1	3.00
U1	Piston only, 4 1/8" diameter, for JJU.....	4	.....	.....	JJU1	3.50
U1A	2 3/4" Diameter piston assembled with 1, 2, 3, 940, for NNU.....	4	100NNU	3.90	.....	.....
U1A	3" Diameter piston assembled with 1, 2, 3 and 940, for FFU.....	4	100UF	3.90	.....	.....
U1A	3 3/8" Diameter piston assembled with 1, 2, 3 and 940 for HHU. (Used after engine No. 24385).....	4	100HUA	4.30	.....	.....
U1A	3 3/16" Diameter piston assembled with 1, 2, 3 and 940. Obsolete. (Used previous to engine No. 24386).....	4	100HU	4.25	.....	.....
U1A	3 3/8" Diameter piston assembled with 1, 2, 3 and 940, for RRU.....	4	.....	.....	100RRU	4.90
U1A	3 3/4" Diameter piston assembled with 1, 2, 3 and 940, for YYU.....	4	.....	.....	100YU	5.40
U1A	4 1/8" Diameter piston assembled with 1, 2, 3 and 940, for JJU.....	4	.....	.....	100JJU	6.40
U2	Plain piston ring, 2 3/4" diameter, for NNU.....	8	NNU2	.25	.....	.....
U2	Plain piston ring, 3" diameter, for FFU.....	8	UF2	.25	.....	.....
U2	Plain piston ring, 3 3/8" diameter, for HHU and RRU. (Used on HHU after engine No. 24385).....	8	RRU2	.30	RRU2	.30
U2	Plain piston ring, 3 3/16" diameter, for HHU. Obsolete. (Used previous to engine No. 24386).....	8	HU2	.30	.....	.....
U2	Plain piston ring, 3 3/4" diameter, for YYU.....	8	.....	.....	NF2	.40
U2	Plain piston ring, 4 1/8" diameter, for JJU.....	8	.....	.....	JJU2	.50
U2D	Oil piston ring, 2 3/4" diameter, for NNU.....	4	NNU2D	.30	.....	.....
U2D	Oil piston ring, 3" diameter, for FFU.....	4	UF2D	.30	.....	.....
U2D	Oil piston ring, 3 3/8" diameter, for HHU and RRU. (Used on HHU after engine No. 24385).....	4	RRU2D	.35	RRU2D	.35
U2D	Oil piston ring, 3 3/16" diameter, for HHU. Obsolete. (Used previous to engine No. 24386).....	4	HU2D	.35	.....	.....
U2D	Oil piston ring, 3 3/4" diameter, for YYU.....	4	.....	.....	YU2D	.45
U2D	Oil piston ring, 4 1/8" diameter, for JJU.....	4	.....	.....	JJU2D	.55
U3	Piston pin for NNU.....	4	NNU3	.40	.....	.....
U3	Piston pin for FFU and HHU. (Used previous to engine No. 24386 on HHU).....	4	UF3	.50	.....	.....
U3	Piston pin for HHU. (Used after engine No. 24385).....	4	GU3	.50	.....	.....
U3	Piston pin for RRU.....	4	.....	.....	AF3A	.75
U3	Piston pin for YYU.....	4	.....	.....	NF3A	.80
U3	Piston pin for JJU.....	4	.....	.....	JJU3	1.00
U4A	Bearing cap for center main ball bearing. (Used on NNU, FFU and HHU engines numbered after 20466 and on RRU, YYU and JJU engines numbered after No. 15243).....	1	FFU4A	.60	RRU4A	1.35
U4A	Bearing cap for babbitted center main bearing. (Used on NNU, FFU and HHU engines numbered previous to 20467, and on RRU, YYU and JJU engines numbered previous to 15244).....	1	FFU4	.60	RRU4	2.25
U7A	Cam gear. (Used on NNU, FFU and HHU engines numbered after 24385) (Special for RRU, YYU and JJU after engine No. 24073.) Give engine number and state if gear is riveted or keyed to shaft.....	1	UF7A	2.50	RRU7	4.65
U7	Cam gear. (Used on NNU, FFU and HHU engines numbered previous to No. 24386.) (Used on RRU, YYU and JJU engines numbered previous to 24074. State whether gear is riveted or keyed to camshaft)..	1	UF7	2.25	RU7	2.40
U8	Connecting rod bushing.....	1	UF8	.15	UF507A	.35
U8	Connecting rod bushing for JJU only.....	1	.....	.....	JJU8	.40
U20	Valve stem collar.....	8	UF20	.05	RU20	.05
U22	Valve spring, inlet and exhaust.....	8	UF22	.05	RU22	.10
U23	Valve stem guide.....	8	NNU23	.35	RU23	.50
U39	Connecting rod complete with parts 8, 39, 41, 241 and X262, for NNU, FFU and HHU.....	4	T3227	6.80	.....	.....
U39	Connecting rod complete with parts 8, 39, 41, 241 and X262, for RRU and YYU.....	4	.....	.....	T3685	16.00
U39	Connecting rod complete with parts 8, 39, 41, 241 and X262, for JJU.....	4	.....	.....	T3782	16.00
U40A	Crankshaft only for ball bearing center bearing. (Used on NNU, FFU and HHU engines numbered after 20466.) (Used on RRU and YYU engines numbered after 15243.) Standard for JJU.....	1	NNU40	25.00	RRU40B	50.00
U40	Crankshaft only for plain, babbitted center bearing. (Used on NNU, FFU and HHU engines numbered previous to 20467.) (Used on RRU and YYU engines numbered previous to 15244).....	1	FFU40	25.00	RRU40	60.00
U41	Connecting rod bolt.....	8	UF41	.25	RU41	.35
U50	Magneto cable with terminal. (State length required).....	4	UNM50A	.70	UNM50B	.70
U58	Cylinder assembled with valve guides and camshaft bushings for NNU.....	1	101NNU	67.00	.....	.....
U58A	Cylinder assembled with valves complete, piston complete and camshaft bushings for NNU.....	1	101NNUA	90.00	.....	.....

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs

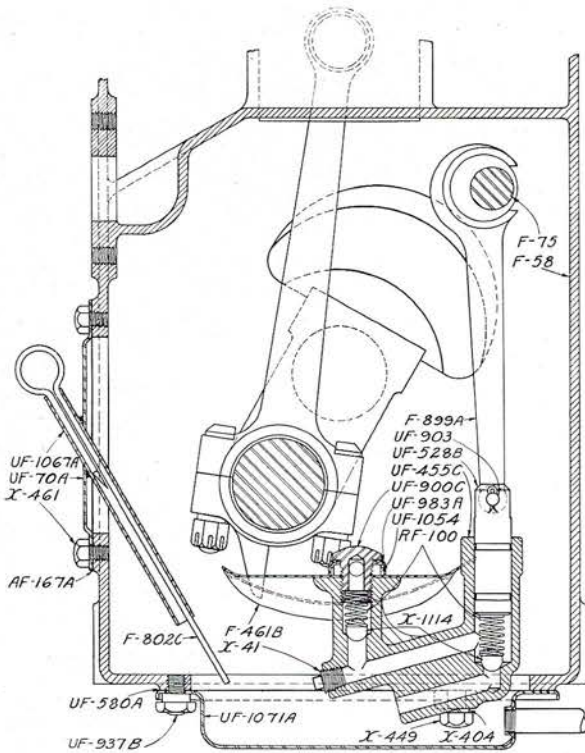


Fig. B879

Detail of Oil Pump Assembly, obsolete, all models.

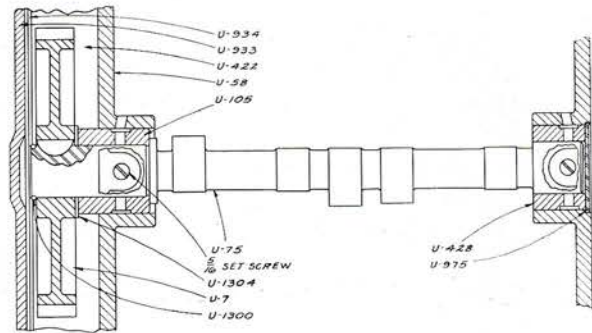


Fig. B1286

Detail of late model Camshaft and Gear Assembly.

Part No.	NAME OF PART	No. Used	MODELS NNU-FFU-HHU		MODELS RRU-YYU-JJU	
			Symbol	Price	Symbol	Price
U58	Cylinder assembled with valve guides and cast iron camshaft bushing for FFU. (Used after engine No. 24385)	1	101FFUE	73.00	.....	....
U58A	Cylinder assembled with valves complete, pistons complete and cast iron camshaft bushing for FFU. (Used after engine No. 24385)	1	101FFUD	95.00	.....	....
U58	Cylinder assembled with valve guides and camshaft bushing for FFU. (Used from engine No. 11797 to No. 24386)	1	101FFUC	73.00	.....	....
U58A	Cylinder assembled with valves complete and camshaft bushing for FFU. (Used from engine No. 11797 to No. 24386)	1	101FFUB	95.00	.....	....
U58	Cylinder assembled with valve guides and camshaft bushing for FFU. (Used previous to engine No. 11797)	1	101FFUA	73.00	.....	....
U58A	Cylinder assembled with valves complete, pistons complete and camshaft bushing for FFU. (Used previous to engine No. 11797)	1	101FFU	95.00	.....	....
U58	Cylinder assembled with valve guides and cast iron camshaft bushing for HHU. (Used after engine No. 24385)	1	101HHUE	77.00	.....	....
U58A	Cylinder assembled with valves complete and cast iron camshaft bushing for HHU. (Used after engine No. 24385)	1	101HHUD	100.00	.....	....
U58	Cylinder assembled with valve guides and camshaft bushings for HHU, (Used from engine No. 11797 to No. 24386)	1	101HHUC	77.00	.....	....
U58A	Cylinder assembled with valves complete, piston complete, and camshaft bushing for HHU. (Used from engine No. 11797 to No. 24386)	1	101HHUB	100.00	.....	....
U58	Cylinder assembled with valves complete, pistons complete and camshaft bushing for HHU. (Used previous to engine No. 11797)	1	101HHUA	100.00	.....	....
U58	Cylinder assembled with valve guides and camshaft bushing for RRU	1	.....	.....	101RRU	122.00
U58A	Cylinder assembled with valves complete, pistons complete and camshaft bushings for RRU	1	.....	.....	101-RRUA	157.00
U58	Cylinder assembled with valve guides and camshaft bushings for YYU	1	.....	.....	101-YYU	130.00
U58A	Cylinder assembled with valves complete, pistons complete and camshaft bushings for YYU	1	.....	.....	101-YYUA	167.00
U58	Cylinder assembled with valve guides and camshaft bushings for JJU	1	.....	.....	101JJU	145.00
U58A	Cylinder assembled with valves complete, piston complete and camshaft bushings for JJU	1	.....	.....	101JJUA	186.00
U62	Flywheel for NNU	1	NNU62	13.00	.....	.....
U62	Flywheel for FFU and HHU; RRU, YYU and JJU	1	FFU62	13.50	RRU62E	20.00

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS NNU-FFU-HHU		MODELS RRU-YYU-JJU	
			Symbol	Price	Symbol	Price
U67A	Muffler assembled complete. (Used on RRU and YYU after engine No. 16543)	1	T3149	2.50	T3147	5.20
U67	Muffler assembled complete. (Used on RRU and YYU previous to engine No. 16544)	1	.....	.....	T3148	3.75
U70	Hand hole cover. Used with bayonet oil gauge	1	T3364	.60	T3364	.60
U70A	Hand hole cover. (1 used on NNU, FFU and HHU; 3 used on RRU, YYU and JJU)	1	AF70B	.40	AF70B	.40
U71	Starting crank	1	T3695	2.50	T4436	2.75
U74C	Governor shaft. (Used on engines NNU, FFU and HHU numbered after 28759, equipped with Wico magneto only)	1	UF74C	1.85	.....	.....
U74D	Governor shaft. (Used on NNU, FFU and HHU engines numbered after 24385, equipped with Splitdorf, Bosch or Eisemann magneto)	1	NNU74	1.85	.....	.....
U74B	Governor shaft. (Used on NNU, FFU and HHU engines numbered from 22555 to 24386.) (Used after engine No. 22554 on RRU, YYU and JJU)	1	T4230	3.50	T4230	3.50
U74A	Governor shaft. (Used from engine No. 18894 to No. 22555)	1	T3674	3.00	T3674	3.00
U74	Governor shaft, inside governor spring type. (Used previous to engine No. 18894)	1	T3237	3.00	T3237	3.00
U75A	Camshaft for use with cast iron bushings. Standard for NNU. (Used on FFU and HHU engines numbered after 24385.) (Special for RRU, YYU and JJU after engine No. 24073. Give engine number and state if gear is riveted or keyed to shaft)	1	FFU75A	10.50	RRU75A	16.00
U75	Camshaft for use with brass bushings. (Used previous to engine No. 24386, FFU and HHU.) Standard for RRU, YYU and JJU	1	FFU75	15.00	RRU75	18.00
U75B	Camshaft assembled with gear. Standard for RRU, YYU and JJU. (Used previous to engine No. 24386, FFU and HHU)	1	T3403	18.00	T3686	21.50
U100	Oil pump spring. (Used on FFU and HHU engines numbered previous to 24386.) (RRU, YYU and JJU previous to No. 24074)	2	RF100	.05	RF100	.05
U80	Center main bearing shim, thick. (Used on FFU and HHU engines numbered previous to 20467.) (RRU and YYU numbered previous to 15244.) Not used on JJU	2	FFU80	.03	RRU80	.04
U80A	Center main bearing shim, thin. Used on FFU and HHU engines numbered previous to 24067.) (RRU and YYU engines numbered previous to 15244)	2 or more	FFU80B	.01	RRU80A	.01
U105A	Front camshaft bushing, cast iron. (Used on FFU and HHU engines numbered after 24385.) (Special for RRU, YYU and JJU after engine No. 24073. Give engine number and state if gear is riveted or keyed to shaft)	1	UF105A	1.00	RRU105A	4.25
U105	Camshaft bushing, brass. (Used on FFU and HHU engines numbered previous to 24386.) (Standard for RRU, YYU and JJU)	2	UF105	.35	RRU105	.45
U106A	Center camshaft bushing, cast iron. (Used on FFU and HHU engines numbered after 24385.) (Special for RRU, YYU and JJU after engine No. 24073. Give engine number and state if gear is riveted or keyed to shaft)	1	FFU106A	1.20	RRU106A	2.80
U106	Center camshaft bushing, brass. (Used on FFU and HHU engines numbered previous to 24386.) (Standard for RRU, YYU and JJU)	1	FFU106	.30	RRU106	.40
U108C	Breather tube. (Used on NNU, FFU and HHU engines only, after No. 24385)	1	UF108C	.30	.....	.....
U108B	Breather tube. (Used on NNU, FFU and HHU engines numbered previous to 24386.) (Standard for RRU, YYU and JJU)	1	UF108B	.35	UF108B	.35
U110	Bracket for valve tappet. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after No. 24074)	2	NNU110	1.45	RRU110	3.15
U119A	Exhaust pipe elbow. (RRU, YYU and JJU after engine No. 16543)	1	FFU119	1.10	RRU119A	3.50
U119	Exhaust pipe elbow. (RRU, YYU and JJU previous to engine No. 16544)	1	.....	.....	RRU119	3.75
U120F	Magneto bracket. Refer to parts U443 or U443A for housing. (For NNU, FFU and HHU engines with Wico magneto after engine No. 28759)	1	UF120F	.25	.....	.....
U120A	Magneto bracket. Refer to part U443 for housing. (For NNU, FFU and HHU with Splitdorf, Bosch or Eisemann magnetos after engine No. 24385)	1	NNU120	2.10	.....	.....
U120D	Magneto bracket and governor housing. Includes U507 bushing. (FFU and HHU engines numbered from 18866 to 24386.) (RRU, YYU and JJU after engine No. 20358)	1	UF120D	6.00	UF120D	6.00
U120E	Magneto bracket and governor housing. Includes U507 bushing. (FFU and HHU used previous to engine No. 18866.) (RRU, YYU and JJU previous to No. 20359)	1	UF120E	6.00	UF120E	6.00
U158	Fuel feed pipe. (State length required)	1	FFU158	.40	RRU158	.40
U165	Valve stem U washer	8	UF165	.35	RU165	.05
U167	Gasket for hand hole cover. 2 used on NNU, FFU and HHU; 4 used on RRU, YYU and JJU	.....	AF167A	.85	AF157A	.05
U175	Gasket for exhaust pipe flange and cover	2	FFU175	.85	EF175	.05
U241	Nut for connecting rod bolt	2	UF241	.85	2S241	.15
U316	Butterfly valve shaft lever	1	.....	.....	RRU316	.50

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



GOVERNOR ASSEMBLY

LATE MODEL

OBSOLETE MODEL

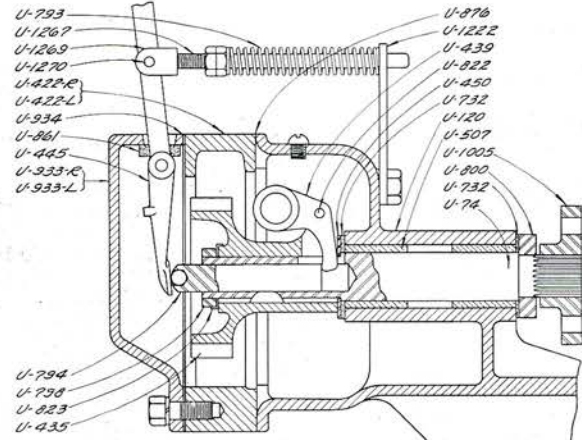
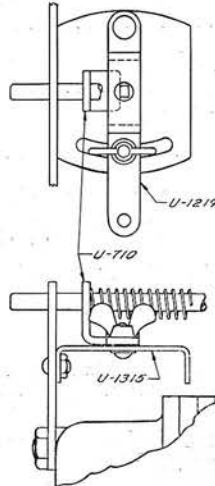
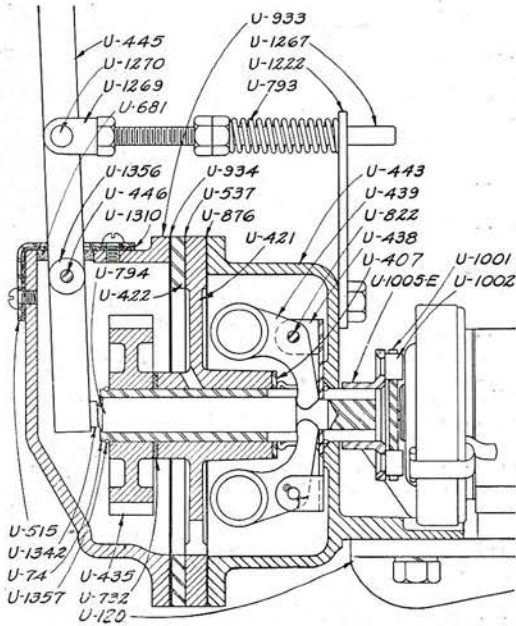


Fig. U1365
Variable Speed
Attachment

Fig. B1377
Models NNU, FFU, HHU from No. 22555 to 24386.
Models RRU, YYU, JJU after No. 22554.

Fig. B1479
Models NNU, FFU, HHU after No. 24385.

Part No.	NAME OF PART	No. Used	MODELS NNU-FFU-HHU		MODELS RRU-YYU-JJU	
			Symbol	Price	Symbol	Price
U316A	Hand throttle lever	1	.....	.....	AF316A	.20
U317	Butterfly valve shaft, RRU, YYU and JJU	1	.....	.....	AF317B	.20
U318	Butterfly valve	1	.....	.....	RRU318	.35
U401	Cylinder head for NNU and RRU	1	NNU401	13.00	RRU401	21.00
U401	Cylinder head for FFU and YYU	1	FFU401	13.00	YYU401	23.00
U401	Cylinder head for HHU and JJU	1	HHU401A	14.00	JJU401B	27.00
U402	Cylinder head capscrew, short. (For NNU only)	16	NNU402A	.15	.....	.....
U402	Cylinder head capscrew, long. 2 used on NNU; 16 used on FFU and HHU		HHU402	.15	.....	.....
U402	Cylinder head stud, short. 13 used on FFU and HHU; 19 used on RRU, YYU and JJU		UF402	.15	RRU402	.20
U403	Cylinder head capscrew, long. 2 used on FFU and HHU		HHU403	.15	.....	.....
U403	Cylinder head stud, long. 5 used on FFU and HHU; 3 used on RRU, YYU and JJU		UF403	.15	RRU403	.25
U407	Washer for governor body	1	EF407	.05	.....	.....
U409A	Cylinder head gasket	1	NNU409A	.80	RRU409	1.50
U410	Manifold stud. 4 used on NNU, FFU and HHU; 6 used on RRU, YYU and JJU		UF410	.10	UF410	.10
U413	Stud for water outlet flange	2	EF413	.05	RRU413	.10
U414	Fan bracket, steel. (Used on FFU and HHU after engine No. 26787.) (Standard for NNU)	1	NNU414	.20	.....	.....
U414A	Fan bracket, cast iron. (FFU and HHU previous to engine No. 26788.) (Standard for RRU, YYU and JJU)	1	FFU414	1.00	RRU414	1.50
U415	Fan adjusting screw. (FFU and HHU after engine No. 26787.) (Standard for NNU)	1	NNU415	.30	.....	.....
U415A	Fan adjusting screw. (FFU and HHU previous to engine No. 26788.) Not used on NNU. Standard on RRU, YYU and JJU	1	UF415	.10	X445	.08
U417	Fan assembly for "V" type belt. (FFU and HHU after engine No. 26788.) Standard for NNU	1	NNU417	10.50	.....	.....
U417B	Fan assembly for flat belt. (FFU and HHU previous to engine No. 26789.) Standard for RRU, YYU and JJU	1	FFU417B	7.00	RRU417A	14.50
U419	Upper center main bearing half. (FFU and HHU used previous to engine No. 20466.) (RRU and YYU only previous to engine No. 15244)	1	FFU419	.60	RRU419	1.10
U419A	Lower center main bearing half. (FFU and HHU previous to engine No. 20466.) (RRU and YYU only previous to engine No. 15244)	1	FFU419	.60	RRU419A	1.10

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



GOVERNOR ASSEMBLY

OBSOLETE MODEL

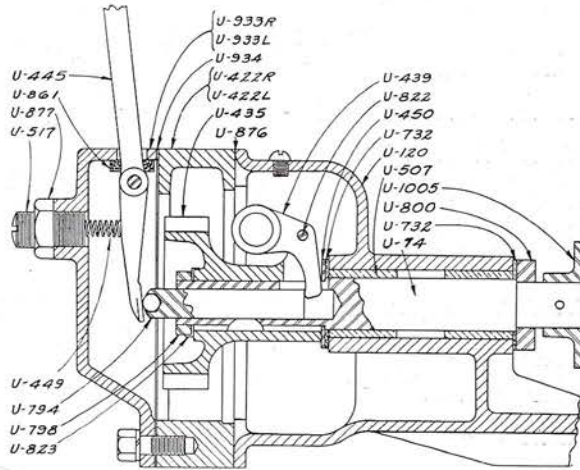


Fig. B1255

Models FFU, HHU from No. 18894 to 22555.
Models RRU, YYU, JJU from No. 20358 to 22554.

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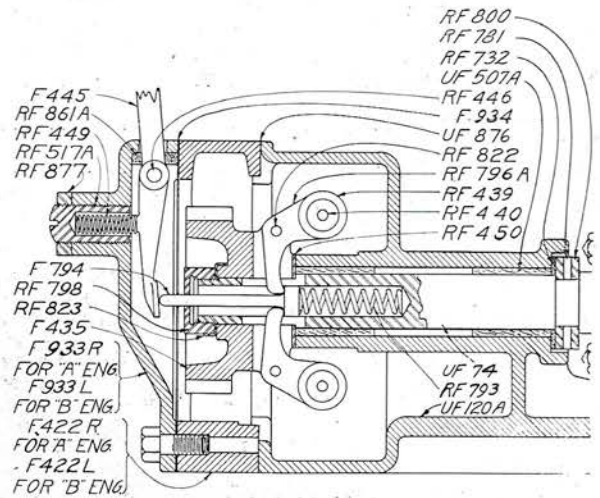


Fig. B877

Models FFU, HHU previous to No. 18894.
Models RRU, YYU, JJU previous to No. 20358.

Part No.	NAME OF PART	No. Used	MODELS NNU-FFU-HHU		MODELS RRU-YYU-JJU	
			Symbol	Price	Symbol	Price
U421	Bearing for governor shaft. (NNU, FFU and HHU after engine No. 24385)	1	UF421	1.25	.....	.....
U422	Plate for timing gear case cover. (FFU and HHU only after engine No. 25132)	1	UF422	1.50	.....	.....
U422A	Plate for timing gear case cover. (NNU engines numbered from 22333 to 25132.) (FFU and HHU engines numbered from 24385 to 25132) ..	1	NNU422	1.75	.....	.....
U422L	Gear case, B position. (Obsolete for FFU and HHU engines numbered from 11798 to 24385.) Standard for RRU, YYU and JJU	1	UF422LC	5.25	RU422LB	6.25
U422R	Gear case, A position. (Obsolete for FFU and HHU engines numbered from 11798 to 24385.) Standard for RRU, YYU and JJU	1	UF422RC	5.25	RU422RB	6.25
U422LA	Gear case for drive B. Obsolete. (Used on engines numbered previous to 11798)	1	UF422LB	5.75	.....	.....
U422RA	Gear case for drive A. Obsolete. (Used on engines numbered previous to 11798)	1	UF422RB	5.75	.....	.....
Note—On all gear cases and covers used previous to engine No. 25133, give symbol cast on case and cover. Also engine serial number.						
U426	Manifold gasket	1	FFU426	.55	RRU426	.65
U428	Rear camshaft bushing, cast iron. (NNU, FFU and HHU after engine No. 24385.) (Special for RRU, YYU and JJU after engine No. 24073. Give engine number and state if gear is riveted or keyed to shaft)	1	UF428	.80	RRU428	2.10
U432	Stud for gear case cover	3	RF432	.05	.....	.....
U434	Fan drive pulley. (FFU and HHU after engine No. 26787.) Standard for NNU	1	T4247	4.50	.....	.....
U434A	Fan drive pulley. (FFU and HHU previous to engine No. 26788.) Standard for RRU, YYU and JJU	1	FFU434A	3.00	RRU434	4.75
U435	Governor pinion. (NNU, FFU and HHU only after engine No. 24385) ..	1	UF435B	1.35	.....	.....
U435A	Governor pinion. (NNU, FFU and HHU from engine No. 18866 to 24386.) (RRU, YYU and JJU after engine No. 20358)	1	UF435A	2.50	RU435A	3.25
U435B	Governor pinion. (FFU and HHU engines numbered previous to 18866.) (RRU, YYU and JJU previous to engine No. 20359)	1	UF435	2.25	RU435	3.25
U438	Governor body. (Used after engine No. 24385)	1	UF438	.40	.....	.....
U439	Governor weight. (FFU and HHU after engine No. 18865.) (RRU, YYU and JJU after engine No. 20358)	2	SU439	.50	SU439	.50
U439A	Governor weight. (FFU and HHU engines numbered previous to 18866.) (RRU, YYU and JJU previous to engine No. 20359)	2	RF439A	.50	RF439A	.50
U443	Governor housing. (NNU, FFU and HHU with Wico magneto with dust shield, used after engine No. 26787)	1	UF443A	1.80	.....	.....
U443A	Governor housing. (NNU, FFU and HHU with Wico magneto without dust shield, used after engine No. 26787)	1	UF443	1.75	.....	.....
U443B	Governor housing. (NNU, FFU and HHU with Splitdorf, Bosch or Eise-mann magentos, used previous to engine No. 26788)	1	NNU443	3.00	.....	.....

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS		MODELS	
			NNU-FFU-HHU Symbol	Price	RRU-YYU-JJU Symbol	Price
U445	Governor lever assembled with AG1342 button. (State whether A or B drive.) (Used after engine No. 25132)	1	T4644	.60	.....	.....
U445A	Governor lever for A or B drive. (Obsolete on NNU, FFU and HHU. Give overall length when ordering)	1	RRU445A	1.00	RRU445A	1.00
U446	Governor lever pin	1	RF446	.10	RF446	.10
U447	Governor rod, "A" position. Note—Give engine serial number when ordering this part	1	FFU447F	.65	RRU447A	.40
U447A	Governor rod, "B" position. Note—Give engine serial number when ordering this part	1	FFU447G	.65	RRU447B	.40
U449	Governor adjusting spring. (FFU and HHU used previous to No. 18894.) (RRU, YYU and JJU previous to No. 20358)	1	RF449	.10	UF449	.10
U450	Washer for governor shaft and fan bracket	1	RF450	.05	RF450	.05
U455	Oil pump assembled. (NNU, FFU and HHU from engine No. 20466 to No. 24386.) (RRU, YYU and JJU from engine No. 15244 to No. 24074)	1	T3370	5.25	T3371	5.25
U455A	Oil pump assembled. (FFU and HHU used previous to engine No. 20466.) (RRU, YYU and JJU previous to engine No. 15244)	1	T3409	6.75	T3845	6.75
U455B	Oil pump body only. (FFU and HHU from engine No. 20466 to No. 24386.) (RRU, YYU and JJU from No. 15244 to No. 24074)	1	UF455C	3.50	UF455C	3.50
U455C	Oil pump body only. (FFU and HHU engines numbered previous to No. 20466.) (RRU, YYU and JJU engines previous to No. 15244)	1	FFU455	3.80	FFU455	3.80
U461	Oil trough. Obsolete. (FFU and HHU engines numbered previous to 24385.) (RRU, YYU and JJU engines previous to No. 24073)	2	UF461B	.30	RRU461	.30
U463A	Intake and exhaust manifold. (RRU, YYU, JJU only after engine No. 16543)	1	FFU463	10.00	RRU463A	19.00
U463	Intake and exhaust manifold. (RRU, YYU and JJU only on engines numbered previous to 16544)	1	.....	.....	RRU463	22.50
U464	Carburetor flange for RRU, YYU and JJU only	1	.....	.....	RRU464	2.75
U465	Water inlet flange	1	FFU465	1.00	RRU465A	1.50
U466	Elbow for water outlet for RRU, YYU and JJU only	1	.....	.....	RRU466	1.40
U486	Gasket for water outlet flange, for RRU, YYU and JJU only	2	.....	.....	RRU486	.05
U489	Butterfly valve housing assembled. RRU, YYU and JJU. State whether A or B drive	1	.....	.....	T3785	5.10
U489A	Butterfly valve housing only. State whether A or B drive	1	.....	.....	RRU489	2.20
U491	Lower radiator hose. Water inlet	1	FFU491	.60	RRU491	.80
U492	Upper radiator hose. Water outlet	1	FFU492	.15	RRU492	.20
U493	Fan belt, "V" type. (FFU and HHU after engine No. 26787.) Standard on NNU	1	NNU493	1.00	.....	.....
U493A	Fan belt, flat type. (FFU and HHU engines previous to No. 26788.) Standard for RRU, YYU and JJU	1	FFU493A	1.50	RRU493	2.50
U507	Bushing for governor shaft. (FFU and HHU engines numbered previous to 24385.) Standard on RRU, YYU and JJU	2	UF507A	.35	UF507A	.35
U515	Cover for governor lever. (NNU, FFU and HHU only, after engine No. 24385)	1	UF515	.10	.....	.....
U517	Governor adjusting screw in gear case cover. Obsolete	1	FFU517	.50	FFU517	.50
U528	Oil pump plunger. (NNU, FFU and HHU engines numbered previous to 24386.) (RRU, YYU and JJU previous to No. 24074)	2	UF528B	.70	UF528B	.70
U537A	Gear case cover gasket. (FFU and HHU engines numbered after 11798.) Standard on RRU, YYU and JJU	1	UF537A	.05	RU537	.05
U537	Gear case cover gasket. (FFU and HHU engines numbered previous to 11799)	1	UF537	.05	.....	.....
U552	Radiator for NNU	1	NNU552A	39.00	.....	.....
U552	Radiator for FFU and HHU	1	FFU552A	46.00	.....	.....
U552	Radiator for RRU, YYU and JJU	1	.....	.....	JJU552	60.00
U554	Starting crank pin	1	LF554	.05	LF554	.05
U564	Radiator cap, 2 5/8" thread. State size	1	UF564	.75	UF564	.75
U564A	Radiator cap, 2 1/16" thread. State size	1	UF564A	.50	UF564A	.50
U564B	Radiator cap, easy-on type	1	UF564B	.50	UF564B	.50
U572	Stud for gear case cover	2	EF572	.10	.....	.....
U578	Gasket for carburetor	2	RRU578	.05	RRU578	.05
U578A	Gasket for carburetor flange. RRU, YYU and JJU only. (Water flange gasket, NNU, FFU and HHU)	2	AF578	.05	AF578	.05
U580	Gasket for oil pan, 14 holes	1	FFU580A	.15	FFU580A	.15
U580A	Gasket for oil pan, 10 holes. Obsolete	1	FFU580	.20	FFU580	.20
U597	Extension shaft, crankshaft drive only	1	FFU597	4.00	RRU597	4.50
U597A	Extension shaft, crankshaft drive with outboard bearing	1	FFU597A	7.00	RRU597A	13.00
U597B	Extension shaft, crankshaft drive with outboard bearing, special. Give length overall	1	FFU597L	9.00	.....	.....
U604	Water outlet flange	1	FFU604	1.25	RRU604C	2.60
U620	Cover for water jacket. RRU, YYU and JJU only. (Used previous to engine No. 16544)	1	.....	.....	RRU620	1.50
U646	Felt washer for front main bearing housing and gear case cover	1	UF646A	.05	RU646	.10
U646A	Felt washer for rear main bearing housing	1	LF646B	.10	RRU646	.20
U647	Felt washer retainer for front main bearing housing and gear case cover	1	FFU647B	.10	RRU647	.15

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS		MODELS	
			Symbol	Price	Symbol	Price
U647A	Felt washer retainer for rear main bearing housing.....	1	LF647B	.05	RRU647	.15
U664	Throttle control rod	1	.....	.....	RRU664	.20
U665	Choker wire	1	FFU665	.35	RRU665A	.40
U676	Special Woodruff key No. 6 for governor shaft.....	1	UF676	.10	UF676	.10
U687	Fuel tank for NNU	1	NNU687	9.50	.....	.....
U687	Fuel tank for FFU and HHU	1	FFU687	10.50	.....	.....
U687	Fuel tank for RRU, YYU and JJU	1	.....	.....	RRU687	13.00
U689	Main bearing for crankshaft. (Complete with cone and rollers and cup.) (Refer to parts 994 and 995 for cup or cone and rollers)	2	UF689C	7.48	RRU689	14.46
U689A	Ball bearing for center main bearing on crankshaft	1	FFU689	8.00	RRU689C	16.00
U697	Crankshaft nut. 2 used on NNU, FFU and HHU; 1 used on RRU, YYU and JJU	1	UF697	.45	RRU697	.55
U700	Filler cap for fuel tank. (UF700A is interchangeable with UF700).....	1	UF700A	.25	UF700A	.25
U710	Quadrant for hand throttle	1	.....	.....	LF710B	.65
U711	Hand throttle lever and shaft assembly	1	.....	.....	T3090	.75
U715	Throttle lever pin	1	RF715	.25	RF715	.25
U732	Washer for governor pinion. (NNU, FFU and HHU after engine No. 24385)	1	LF732	.05	.....	.....
U732A	Washer for governor pinion. (NNU, FFU and HHU engines numbered previous to engine No. 24386.) Standard on RRU, YYU and JJU....	2	RF732	.05	RF732	.05
U757	Spring for camshaft stop. (FFU and HHU engines numbered previous to No. 24386)	1	UF757A	.10	UF757A	.10
U777	Connection for Protectomotor air cleaner. (Except JJU)	1	UF777H	.20	RRU777A	3.25
U777A	Elbow for Protectomotor air cleaner, JJU engine only	1	.....	.....	JJU777A	1.90
U778	Hood for Pomona air cleaner for No. 270 cleaner	1	.....	.....	RU778	2.50
U778B	Hood for Pomona air cleaner for No. 1060 cleaner.....	1	.....	.....	RU778B	3.00
U784	Valve tappet cover and gasket	2	T3232	.45	T3232	.45
U786	Mushroom follower	8	SU786	.55	RU786	1.00
U787	Nut for tappet adjusting screw	8	UF787	.05	X387	.05
U788	Valve tappet adjusting screw	8	UF788	.05	RU788	.05
U793	Governor spring, standard	1	RU793	.10	RU793	.10
U793C	Governor spring, 1600 to 1800 R.P.M.	1	RU793C	.35	RU793C	.35
U794C	Governor plunger. (FFU and HHU after engine No. 18893.) (RRU, YYU and JJU after engine No. 20357)	1	UF794C	.25	RU794C	.70
U794A	Governor plunger. (FFU and HHU engines numbered previous to 18894.) (RRU, YYU and JJU engines numbered previous to 20358).....	1	UF794	.50	RU794B	.60
U798	Nut for governor shaft. (NNU, FFU and HHU engines numbered from 18894 to 26381.) (RRU, YYU and JJU after engine No. 20357).....	1	UF798	.35	UF798	.35
U798A	Nut for governor shaft. (FFU and HHU previous to engine No. 18894.) (RRU, YYU and JJU previous to engine No. 20358).....	1	RF798	.45	RF798	.45
U802A	Bayonet oil gauge, used with oil gears.....	1	T4518	.40	T4520	.40
U802	Bayonet oil gauge, used with oil pump. Obsolete	1	T3799	.40	T3800	.40
U806	Fuel tank strap, RRU, YYU and JJU. (Short, with fabric pad).....	2	.....	.....	AF806G	.35
U808	Valve cover gasket	2	UF808	.10	UF808	.10
U822A	Pin for governor weight. NNU, FFU and HHU only. (Used after engine No. 26787)	2	UF822A	.15	.....	.....
U822B	Pin for governor weight. (NNU, FFU and HHU from engine No. 18894 to No. 26788.) (RRU, YYU and JJU after engine No. 20357).....	2	UF822	.10	UF822	.10
U822	Pin for governor weight. (FFU and HHU engines numbered previous to 18894.) (RRU, YYU, JJU engines previous to No. 20358).....	2	RF822	.05	RF822	.05
U823	Lockwasher for governor shaft. (FFU and HHU only previous to engine No. 24386)	1	RF823	.05	RF823	.05
U824	Cable support for NNU, FFU and HHU	1	FFU824	.15	.....	.....
U824	Cable support and magneto guard for RRU, YYU and JJU.....	1	.....	.....	T3950	1.20
U851	Setscrew for driving flange	1	FFU851	.20	FFU851	.20
U861	Felt washer for governor lever. (NNU, FFU and HHU after engine No. 24385)	1	UF861	.05	RF861A	.05
U861A	Felt washer for governor lever. (NNU, FFU and HHU previous to engine No. 24386)	1	RF861A	.05	.....	.....
U876	Gasket for governor housing and magneto bracket	1 or more	UF876	.05	UF876	.05
U877	Locknut for governor adjusting screw. (FFU and HHU used previous to engine No. 24386)	1	RF877	.15	RF877	.15
U882	Fuel tank strap	4	FFU882	.60	.....	.....
U886	Rubber ferrule for magneto cable	4	RF886	.03	RF886	.03
U899	Eccentric rod for oil pump. (NNU, FFU and HHU used previous to engine No. 24386.) (RRU, YYU and JJU used previous to engine No. 24074)	2	UF899A	1.20	RU899	1.50
U900	Discharge fitting for oil pump. (NNU, FFU and HHU previous to engine No. 24386.) (RRU, YYU and JJU previous to engine No. 24074).....	2	UF900C	.30	UF900C	.30
U903	Oil pump plunger pin. (NNU, FFU and HHU previous to engine No. 24386.) (RRU, YYU and JJU previous to engine No. 24074).....	2	UF903	.15	UF903	.15
U927	Valves. (Inlet and exhaust for NNU, FFU and HHU, 8 used.) (Inlet for RRU and YYU, 4 used.) (Inlet for JJU previous to engine No. 24074, 4 used)	1	UF927C	.50	RRU927	1.10

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS		MODELS	
			Symbol	Price	Symbol	Price
U927A	Exhaust valve for RRU and YYU. (For JJU previous to engine No. 24074)	4			RRU927A	1.80
U927B	Intake valve for JJU. (Used after engine No. 24073)	4			RRU927B	1.10
U927C	Exhaust valve for JJU. (After engine No. 24073)	4			RRU927C	1.80
U927D	Exhaust valve for NNU, FFU and HHU. (Special for engines above 1500 R.P.M.)	4	UF927D	1.00		
U928	Housing for front main bearing with U994 cup	1	UF928A	3.25	RRU928A	8.60
U929	Housing for rear main bearing with U994 cup	1	UF929A	3.25	RRU929A	9.30
U931	Fuel tank strap, long	2			AF931	.15
U933LF	Gear case cover, B position. (NNU, FFU and HHU after engine No. 25132)	1	UF933LF	3.50	T3341	4.00
U933L	Gear case cover, B position. (NNU, FFU and HHU from engine No. 24386 to No. 25133)	1	NNU933LF	5.00		
U933RF	Gear case cover, A position. (NNU, FFU and HHU after engine No. 25132)	1	UF933RF	4.00	T3342	4.00
U933R	Gear case cover, A position. (From engine No. 24386 to No. 25133)	1	NNU933RF	5.00		
U933LD	Gear case cover, B position. (Used on engines numbered from 11797 to 24386)	1	UF933LD	4.25	RU933LC	5.00
U933RD	Gear case cover, A position. (Used on engines numbered from 11797 to 24386)	1	UF933RD	4.25	RU933RC	5.00
U933LC	Gear case cover, B position. (Used on engines numbered previous to 11798)	1	UF933LC	4.25		
U933RC	Gear case cover, A position... (Used on engines numbered previous to 11798)	1	UF933RC	4.25		
Note—On all cases and covers used previous to engine No. 24386, give symbol cast on gear case and cover.						
U934	Gear case cover gasket. (NNU, FFU and HHU after engine No. 24385)	1	UF934B	.10	RU934	.15
U934A	Gear case cover gasket. (NNU, FFU and HHU from engine No. 11798 to No. 24386)	1	UF934A	.10		
U934	Gear case cover gasket. (FFU and HHU previous to engine No. 11798)	1	UF934	.10		
U937	Stud for steel oil pan, 14 holes	14	FFU937	.08	FFU937	.08
U937A	Stud for aluminum oil pan, 10 holes	10	UF937	.05	UF937	.05
U940	Snap ring for piston pin for NNU, FFU and HHU; RRU and YYU	8	UF940	.05	AF940	.05
U940A	Snap ring for piston pin for JJU	8			JJU940	.05
U941	Stud for base angle. (4 used on NNU, FFU and HHU.) (18 used with U465, U585, U604, U620, on RRU, YYU and JJU)		UF941	.10	RRU941	.10
U944	Stud for gear case. (NNU, FFU and HHU previous to engine No. 24386, 3 used.) (6 used on RRU, YYU and JJU)		UF944	.10	RU944	.10
U951	Special capscrew for main bearing housing	1	NNU951	.10		
U965	Gasket for main bearing housing, thin	2 or more	UF965	.05	RRU965	.05
U965A	Gasket for main bearing housing, thick	1	UF965A	.05	RRU965A	.05
U967	Stud for magneto bracket. (NNU, FFU and HHU previous to engine No. 24386)	3	UF967	.10	UF967	.10
U967A	Stud for magneto bracket. (NNU, FFU and HHU previous to engine No. 24386)	1	UF967A	.10		
U968	Lockwasher for crankshaft nut. (1 used on RRU, YYU and JJU)	2	UF968	.10	RRU968	.10
U968A	Lockwasher for crankshaft nut	1			RU968	.10
U969	Plug for unused holes, tapped 5/16"	As required	UF969D	.15		
U969A	Plug for unused holes, tapped 3/8"	As required	RU959A	.15		
U969B	Plug for unused holes, tapped 7/16"	As required	UF969E	.10		
U969C	Headless plug for unused holes, tapped 3/16"	As required	UF969B	.15		
U969D	Headless plug for unused holes, tapped 3/8"	As required	RU969	.15		
U974	Stud for tapped cover plate	2	UF974	.10	RU974	.10
U975	Expansion plug for cylinder block	1	UF975B	.05	RRU975	.15
U975A	Expansion plug for magneto bracket	1	UF975A	.05	UF975A	.05
U975B	Expansion plug, 3/4"	1			UF975C	.05
U983A	Outer cup for oil discharge fitting. (NNU, FFU and HHU previous to engine No. 24386.) (RRU, YYU and JJU previous to engine No. 27074)	2	UF983A	.15	UF983A	.15
U991	Pipe nipple for radiator hose	1	FFU991	.30		
U994	Cup for roller bearing. (No. 414 for NNU, FFU and HHU.) (No. 552A for RRU, YYU and JJU)	2	UF994B	2.60	RRU994	6.17
U995	Cone and rollers. (No. 418 for NNU, FFU and HHU.) (No. 555S for RRU, YYU and JJU)	2	UF995B	4.88	RRU995	8.29
X1000	Spark plug for NNU, FFU, HHU, RRU, YYU and JJU	4	X1000	.75	X1000	.75
U1001	Floating center plate for magneto. (NNU, FFU and HHU after engine No. 28759)	1	SU1001	.15		
U1024	Driving flange	1	FFU1024A	2.75	RRU1024A	4.50
U1054	Inner cup for oil discharge fitting. (NNU, FFU and HHU previous to engine No. 24386.) (RRU, YYU and JJU previous to engine No. 24074)	1	UF1054	.15	UF1054	.15
U1071	Steel oil pan, 14 holes	1	FFU1071A	1.20	FFU1071A	1.20
U1071	Aluminum oil pan, 10 holes	1	FFU1071	5.40	FFU1071	5.40
U1072	Nut for stud used with aluminum oil pan	10	UF1072	.10	UF1072	.10

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS		MODELS	
			NNU-FFU-HHU Symbol	Price	RRU-YYU-JJU Symbol	Price
U1073	Outer felt washer retainer. 1 used for RRU, YYU and JJU, front bearing housing	1	UF1073	.05	RU1073	.05
U1073A	Outer felt washer retainer. 1 used for RRU, YYU and JJU, rear bearing housing	1	.....	.....	RRU1073	.15
U1079A	Special capscrew for governor housing. (NNU, FFU and HHU after engine No. 24385)	3	UF1079A	.25	.....	.....
U1079	Special capscrew for governor housing. (NNU, FFU and HHU previous to engine No. 24386)	2	UF1079	.25	UF1079	.25
U1118	Reinforcing strip for oil pan	2	FFU1118A	.20	FFU1118A	.20
U1125	Oil gear with hub. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	2	T4245	2.50	T4302	3.70
U1130	Cover for exhaust pipe. (RRU, YYU and JJU after engine No. 16543)	1	FFU1130	.40	RRU1130A	1.10
U1216	Cap for fan bracket. (NNU, FFU and HHU only, after engine No. 26787.) Also JJU	1	NNU1216	.05	NNU1216	.05
U1217	Washer for felt retainer	1	UF1217	.05	RU1217	.05
U1222	Bracket for governor spring rod	1	SU1222	.10	RRU1222	.10
U1226	Shaft for oil gear. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	2	NNU1226	.30	NNU1226	.30
U1238	End reinforcing strip for oil pan	2	FFU1238	.15	FFU1238	.15
U1247	Oil pinion on crankshaft. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	2	NNU1247	1.50	RU1247	2.35
U1251	Oil pipe assembly for babbitted center bearing. Obsolete	1	T3848	1.50	T3847	1.70
U1257	Collar for center bearing. (FFU and HHU after engine No. 20466.) (RRU, YYU and JJU after engine No. 15243)	1	FFU1257	.95	RRU1257A	.95
U1258	Sleeve for center bearing. (FFU and HHU after engine No. 20466.) (RRU, YYU and JJU after engine No. 15243)	2	FFU1258	.65	RRU1258	.75
U1259	Lock spring for center bearing. (FFU and HHU after engine No. 20466.) (RRU, YYU and JJU after engine No. 15243)	1	FFU1259	.10	RRU1259A	.10
U1264	Upper half of bushing for center bearing. (FFU and HHU after engine No. 20466.) (RRU, YYU and JJU after engine No. 15243)	1	FFU1264	1.25	RRU1264	1.25
U1264A	Lower half of bushing for center bearing. (FFU and HHU after engine No. 20466.) (RRU, YYU and JJU after engine No. 15243)	1	FFU1264A	1.25	RRU1264A	1.25
U1265	Spacer for center bearing. (FFU and HHU after engine No. 20466.) (RRU, YYU and JJU after engine No. 15243)	2	FFU1265	1.00	RRU1265A	1.25
U1267	Rod and Yoke for outside governor spring	1	T4264	.35	T4264	.35
U1270	Pin for governor spring rod	1	SU1270	.10	SU1270	.10
U1279	Spark plug wrench and handle	1	UF1279	.30	RRU1279	.50
U1281	Bracket for oil gear. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	2	NNU1281	.35	RU1281	.50
U1281A	Oil gear and bracket assembly. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	2	T4246	3.75	T4304	4.40
U1289	Washer for eccentric rod guide. (NNU, FFU and HHU previous to engine No. 24074) (RRU, YYU and JJU previous to engine No. 24074)	4	UF1289	.01	UF1289	.01
U1297	Eccentric rod guide. (NNU, FFU and HHU previous to engine No. 24386.) (RRU, YYU and JJU previous to engine No. 24074)	2	UF1297	.15	RU1297	.20
U1300	Lock spring for camshaft. (NNU, FFU and HHU after engine No. 24385.) (Special for RRU, YYU and JJU after engine No. 24073.) Give engine number and state if gear is riveted or keyed to shaft.	1	UF1300	.05	RRU1300	.05
U1304	Thrust washer for camshaft. (NNU, FFU and HHU after engine No. 24385.) (Special for RRU, YYU and JJU after engine No. 24073.) Give engine number and state if gear is riveted or keyed to shaft.	1	UF1304	.05	RRU1304	.10
U1306	Lock for oil pump capscrews	2	UF1306	.05	UF1306	.05
U1310	Gasket for governor lever cover	1	NNU1310	.05	NNU1310	.05
U1313	Capscrew for oil pinion on crankshaft. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	1	NNU1313	.05	NNU1313	.05
U1318	Washer for cylinder head capscrew for NNU, FFU and HHU engines only	18	NNU1318	.01	.....	.....
U1329	Oil wiper for oil gear. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	2	NNU1329A	.10	RRU1329	.15
U1342	Plug for end of governor lever (NNU, FFU and HHU only after engine No. 25132)	1	AG1342	.15	.....	.....
U1344	Washer for oil pinion on crankshaft. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	4	UF1344	.05	RRU1344	.10
U1347	Washer for governor lever pin	2	AG1347	.02	.....	.....
U1349	Fiber washer for oil gear. (NNU, FFU and HHU after engine No. 24385.) (RRU, YYU and JJU after engine No. 24073)	4	NNU1349	.05	NNU1349	.05
U1357	Lock spring for governor shaft. Used after engine No. 25132	2	UF1357	.05	.....	.....
U1365	Variable speed attachment	1	T4265	.60	.....	.....

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



MAGNETO IMPULSE COUPLING ASSEMBLIES

LATE MODEL—No. 3

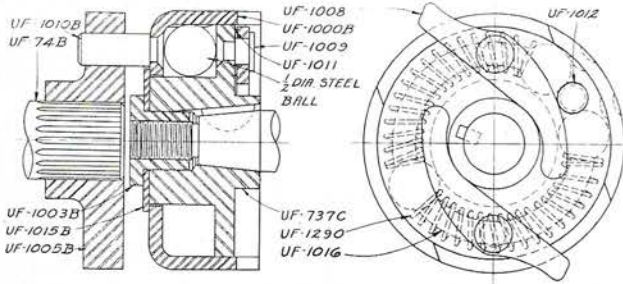


Fig. B1359

OBSOLETE MODEL—No. 2

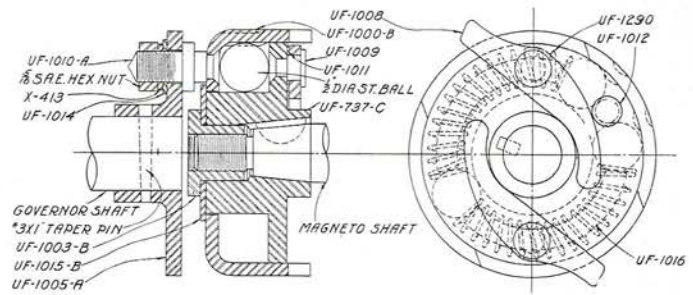


Fig. B1135

OBSOLETE MODEL—No. 1

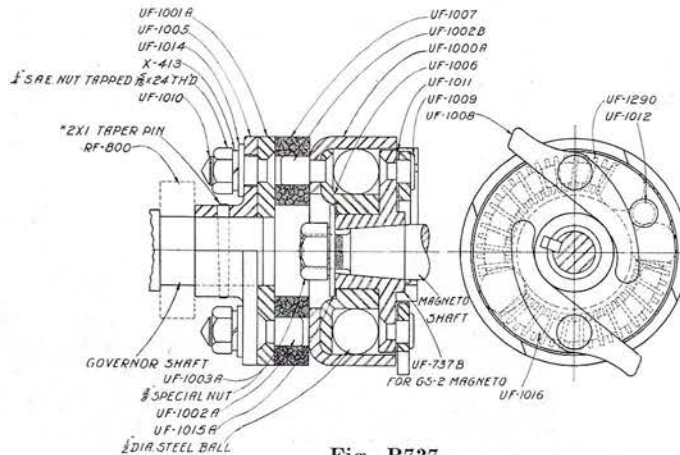


Fig. B737

Part No.	NAME OF PART	No. Used	NNU-FFU-HHU Symbol.	Price	RRU-YYU-TTT Symbol	Price
U737A	Hub assembly for No. 1 impulse coupling. Fig. B737	1	T3321	2.75	T3321	2.75
U737B	Hub assembly for No. 2 and 3 impulse coupling. Fig. B1135 and B1359	1	T4155	2.50	T4155	2.50
U1001A	Housing for impulse, with drive pins and spacer A2686. No. 1 assembly. Fig. B737	1	T4291	2.50	T4291	2.50
U1000B	Housing for impulse, with drive pins. No. 2 assembly. Fig. B1135	1	T4154	1.50	T4154	1.50
U1000C	Housing for impulse, with drive pins. No. 3 assembly. Fig. B1359	1	T4215	1.50	T4215	1.50
U1001A	Drive plate. No. 1 assembly. Fig. B737	1	T3318	1.50	T3318	1.50
U1002A	Drive pin for plate. No. 1 assembly. Fig. B737	2	UF1002A	.05	UF1002A	.05
U1002B	Drive pin for hub. No. 1 assembly. Fig. B737	2	UF1002B	.15	UF1002B	.15
U1003A	Nut for magneto shaft. No. 1 assembly. Fig. B737	1	UF1003A	.15	UF1003A	.15
U1003B	Nut for magneto shaft. No. 2 and 3 assemblies. Fig. B1135 and B1359	1	UF1003B	.15	UF1003B	.15
U1005A	Drive hub. No. 1 and 2 assemblies. Fig. B737 and B1135	1	UF1005A	.80	UF1005A	.80
U1005B	Drive hub. No. 3 assembly. Fig. B1359	1	UF1005B	1.20	UF1005B	1.20
U1005C	Drive hub with pin for Wico magneto	1	T4542	1.20		
U1007	Fiber disc. No. 1 assembly. Fig. B737	1	UF1007	1.00	UF1007	1.00
U1008	Finger for impulse	2	UF1008	.15	UF1008	.15
U1009	Pin for finger	2	UF1009	.10	UF1009	.10
U1010	Drive pin for hub. No. 1 assembly. Fig. B737	2	UF1010	.15	UF1010	.15
U1010A	Drive pin for hub. No. 2 assembly. Fig. B1135	2	UF1010A	.15	UF1010A	.15
U1010B	Drive pin for hub. No. 3 assembly. Fig. B1359	2	UF1010B	.10	UF1010B	.10
U1011	Washer for finger	2	UF1011	.01	UF1011	.01
U1012	Pin for impulse spring	1	UF1012	.10	UF1012	.10
U1014	Washer for drive pin. No. 1 and 2 assembly. Fig. B737 and B1135	2	UF1014	.05	UF1014	.05
U1015A	Washer for hub. No. 1 assembly. Fig. B737	1	UF1015A	.05	UF1015A	.05
U1015B	Washer for hub. No. 2 and 3 assembly. Fig. B1135 and B1359	1	UF1015B	.05	UF1015B	.05
U1016	Felt for spring	2	UF1016	.05	UF1016	.05
U1018	Stop for impulse coupling finger	1	UF1018	.45	UF1018	.45
U1290	Spring for impulse coupling finger	2	UF1290	.05	UF1290	.05
X1114	Steel ball for impulse coupling	3	X1114	.05	X1114	.05
113UB	No. 3 impulse coupling complete. Fig. B1359. (NNU, FFU and HHU from engine No. 22555 to 28760)	1	113UB	6.00	113UB	6.00
113UA	No. 2 impulse coupling complete. Fig. No. B1135. (Used from engine No. 15973 to 22555)	1	113UA	6.00	113UA	6.00
113U	No. 1 impulse coupling complete. Fig. No. B737. (Used previous to engine No. 15973)	1	113U	10.00	113U	10.00

Note—For impulse coupling parts used on NNU, FFU and HHU after serial No. 28759 refer to your magneto parts list, except for drive hub with pin assembly listed above, part U1005C.

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



SPEED REDUCTIONS—MODEL NNU, FFU, HHU

Note—Lists covering models RRU, YYU and JJU mailed on receipt of application giving engine serial number.

Part No.	NAME OF PART	No. Used	MODELS		MODELS	
			NNU-FFU-HHU Symbol	Price	RRU-YYU-JJU Symbol	Price
U62A	Flywheel and clutch drive pin assembly for FFU, HHU, RRU, YYU and JJU	1	T3803	15.00	T4225	22.50
U62B	Flywheel and clutch drive pin assembly for NNU only	1	T4242	14.35		
U108	Oiler for gear reduction housing	1	UF108B	.35		
U175	Gasket for hand hole cover U1130. 2 to 1 R.H. reduction	1	FFU175	.05		
U597	Extension shaft for crankshaft drive, less clutch and bell housing	1	FFU597	4.00	RRU597	4.50
U597A	Extension shaft for crankshaft drive, less clutch with bell housing	1	FFU597A	7.00	RRU597A	13.00
U597B	Power take off shaft for 2 to 1 reduction, L.H. rotation, less clutch	1	FFU597B	10.00		
U597C	Extension shaft for 3 to 1 and 4 to 1 reductions, R.H. rotation	1			RRU597B	21.50
U597D	Extension shaft for 2 to 1 reduction, R.H. rotation	1			RRU597H	30.50
U597E	Extension shaft for 2 to 1 reduction, L.H. rotation	1			RRU597J	30.50
U613	Outboard bearing, bell housing	1	FFU613	10.00	RRU613	22.00
U613A	Outboard bearing, bell housing, NNU only	1	NNU613A	9.25		
U632B	52T. Internal ring gear for 3 to 1 and 4 to 1 reductions. R.H. rotation	1	FFU632B	25.50		
U632C	14T. Power gear for 4 to 1 reduction. L.H. rotation	1	FFU632C	5.00		
U632D	56T. Power gear for 4 to 1 reduction. L.H. rotation	1	FFU632D	29.00		
U632E	17T. Power gear for 3 to 1 reduction. R.H. rotation	1	FFU632E	6.75		
U632F	13T. Power gear for 4 to 1 reduction. R.H. rotation, 1" bore. See U632L	1	FFU632F	5.75		
U632G	16T. Power gear for 2 to 1 reduction. L.H. rotation	1	RU632	5.00		
U632H	29T. Power sprocket for 2 to 1 reduction. R.H. rotation	1	RU632H	11.00		
U632J	15T. Power sprocket for 2 to 1 reduction. R.H. rotation	1	FFU632J	5.00		
U632K	32T. Power gear for 2 to 1 reduction. L.H. rotation	1	RU632B	7.75		
U632L	13T. Power gear for 4 to 1 reduction, 1 5/16" bore. See U632F	1	FFU632A	5.50		
U634	Spider for internal ring gear. 3 to 1 and 4 to 1 R.H. reductions	1	FFU634	7.00		
U635A	Clutch shaft for 2 to 1 L.H. and 3 to 1 R.H. reductions	1	FFU635	4.60		
U635B	Clutch shaft for 4 to 1 reduction. R.H. and L.H. rotation	1	FFU635B	8.00		
U635C	Clutch shaft for 4 to 1 reduction. R.H. and L.H. rotation, for U632L gear. Obsolete	1	FFU635A	8.15		
U635D	Power shaft for 2 to 1 L.H. and 3 to 1 R.H. reductions, less clutch	1	FFU635C	8.40		
U635E	Power shaft for 4 to 1 R.H. and L.H. reductions less clutch, for gear U632F	1	FFU635D	13.50		
U635F	Power shaft for 4 to 1 R.H. and L.H. reductions less clutch, for gear U632L	1	FFU635E	26.85		
U642	Gear reduction housing for 2 to 1 reduction. L.H. rotation	1	FFU642	13.75		
U642A	Gear reduction housing for 4 to 1 reduction. R.H. rotation	1	FFU642A	18.35		
U642B	Gear reduction housing for 2 to 1 reduction. R.H. rotation	1	FFU642E	15.40		
U642C	Gear reduction housing for 4 to 1 reduction. L.H. rotation	1	FFU642C	29.75		
U642D	Gear reduction housing for 3 to 1 reduction. R.H. rotation	1	FFU642D	20.75		
U643A	Cover for gear reduction housings U642A and U642D	1	FFU643A	12.35		
U643B	Cover for gear reduction housing U642	1	FFU643B	9.80		
U643C	Cover for gear reduction housing U642C	1	FFU643C	11.45		
U643D	Cover for gear reduction housing U642B	1	FFU643D	9.35		
U646	Felt washer for reduction gear housing cover and part U647C	1	LF646B	.10	AF646	.10
U646A	Felt washer for outboard bearing. (bell housing)	1	FFU646	.10	RRU646	.20
U646B	Felt washer	1			RRU646A	.25
U647A	Inner felt washer retainer for gear reduction housing cover and part U647C	1	LF647B	.05	RRU647	.10
U647B	Inner felt washer retainer for outboard bearing (bell housing) part U613	1	FFU647B	.10	RRU647	.15
U647C	Cover and felt washer retainer for outboard bearing (bell housing), part U613	1	FFU647	2.00	RRU647A	5.50
U648	Gasket for gear reduction housing cover U643B	1	FFU648	.05		
U648	Gasket for hand hole cover	1	RRU648	.10	RRU648	.10
U648A	Gasket for gear reduction housing cover U643A	1	FFU648A	.05		
U648B	Gasket for gear reduction housing cover U643C	1	FFU648B	.05		
U648C	Gasket for gear reduction housing cover U643D	1	FFU648C	.05		
U649C	Drive shaft for 2 to 1 and 4 to 1 reductions. R.H. and L.H. rotation	1	FFU649	6.50		
U649E	Drive shaft for 3 to 1 reduction. R.H. rotation	1	FFU649E	7.85		
U649F	Clutch shaft for 2 to 1 reduction. R.H. rotation	1	FFU649F	4.75		

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs

SPEED REDUCTIONS—MODELS NNU, FFU, HHU

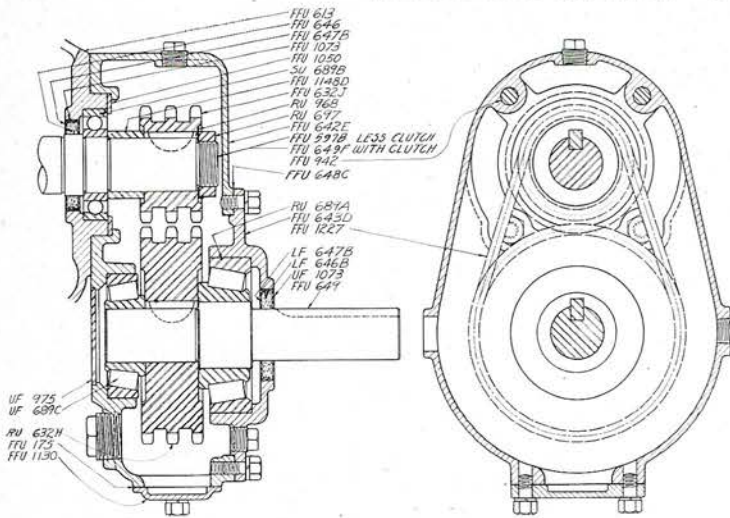


Fig. C467

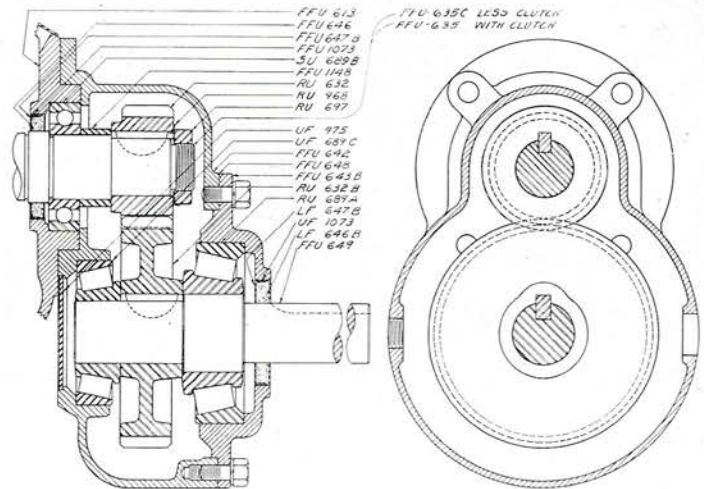


Fig. C463

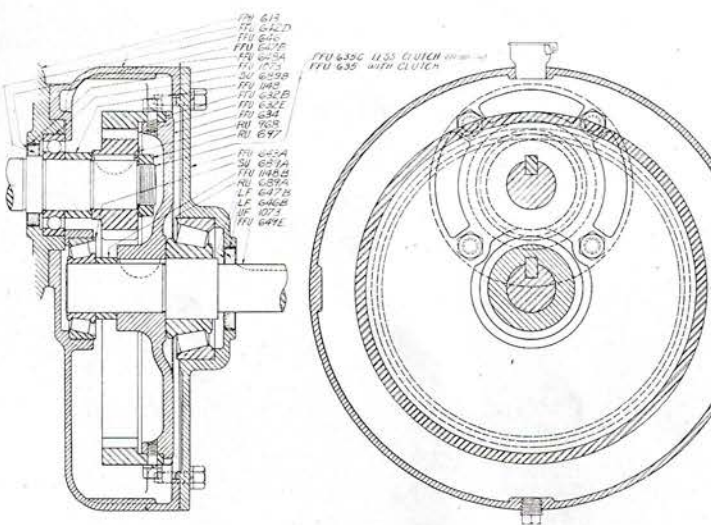


Fig. C473

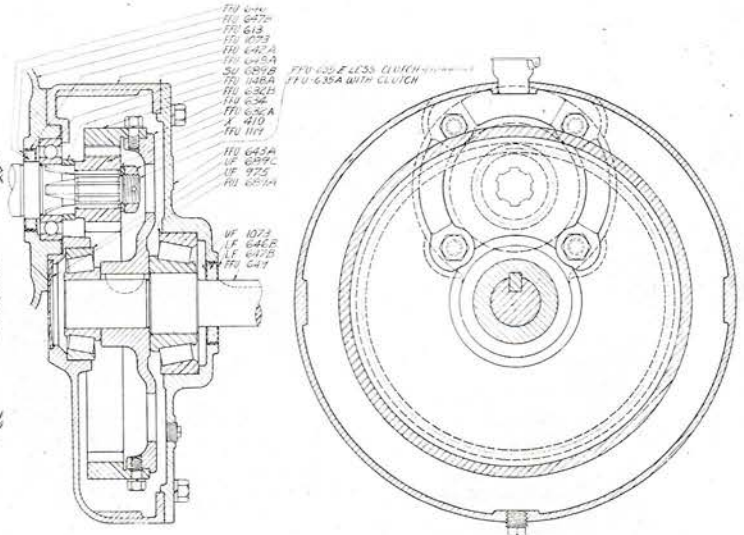


Fig. C471

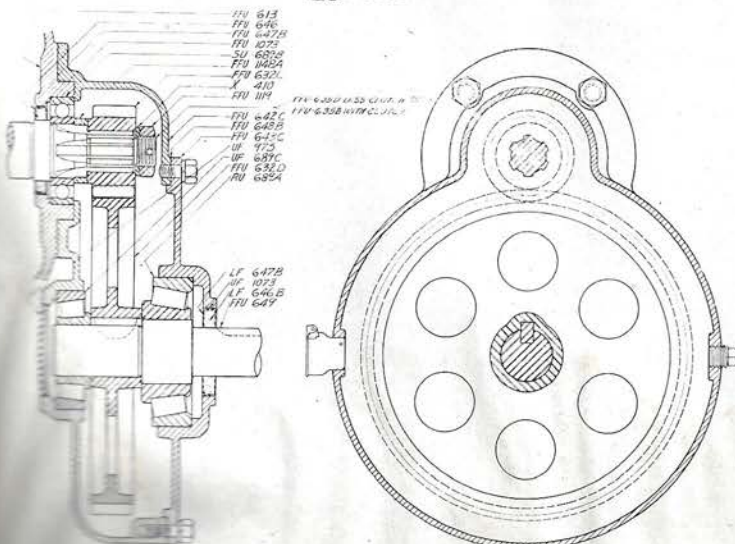


Fig. C470

Fig. C467—2 to 1 Right Hand

Fig. C463—2 to 1 Left Hand

Fig. C473—3 to 1 Right Hand

Fig. C471—4 to 1 Right Hand

Fig. C470—4 to 1 Left Hand

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS NNU-FFU-HHU		MODELS RRU-YYU-JJU	
			Symbol	Price	Symbol	Price
U649G	Clutch shaft for 3 to 1 and 4 to 1 reduction. R.H. rotation	1			FFU649A	17.00
U649H	Clutch shaft for 2 to 1 reduction. R.H. rotation	1			RRU649E	21.15
U649J	Clutch shaft for 2 to 1 reduction. L.H. rotation	1			RRU649F	19.00
U649K	Drive shaft	1			RRU649G	9.60
U649L	Clutch shaft for 3 to 1 and 4 to 1 reductions. R.H. rotation	1			RRU649H	29.00
U649M	Clutch shaft for 2 to 1 reduction. R.H. rotation	1			RRU649J	25.85
U649N	Clutch shaft for 2 to 1 reduction. L.H. rotation	1			RRU649K	21.00
U649O	Clutch shaft for 3 to 1 reduction. L.H. rotation	1			RRU649Q	28.75
U649P	Clutch shaft for crankshaft drive	1	FFU649B	5.00	RRU649	10.50
U653	Cover for outboard bearing	1	FFU653	.50	FFU653	.50
U689	No. ND1208 ball bearing for clutch and drive shaft	1	RF689A	5.85		
U689	No. ND309 ball bearing for clutch and drive shaft	1			RRU689A	8.50
U689A	No. 337-333 Small roller bearing for drive shaft. 3 to 1, R.H. reduction	1	SU689A	5.69		
U689C	No. 418-414 Small roller bearing for drive shaft. 2 to 1 and 4 to 1 reduction, R.H. and L.H.	1	UF689C	7.48		
U689F	No. 536-532A Large roller bearing for drive shaft, for all reductions	1	RU689A	12.03		
U697	Nut for clutch shaft and drive shaft for 2 to 1 and 3 to 1 reductions	1	RU697	.55	RU697	.55
U942	1/2"x5/8" Stud for gear reduction housing U642B	2	FFU942	.20		
U968A	Lock washer for nut U697	1	RU968	.10		
U975	2 3/4" Expansion plug for gear reduction housing	1	UF975	.15		
U975A	1" Expansion plug for gear reduction housing	1	FFU975	.15		
U975B	1" Expansion plug for NNU less clutch with bell housing shaft assembly	2	FFU975A	.15		
U994B	No. 333 Cup for roller bearing	1	UF994	2.11		
U994C	No. 414 Cup for roller bearing	1	UF994B	2.60		
U994E	No. 532 Cup for roller bearing	1	RU994B	5.04		
U995B	No. 337 Cone and rollers	1	SU995B	3.58		
U995D	No. 418 Cone and rollers	1	UF995B	4.88		
U995E	No. 536 Cone and rollers	1	RU995B	6.99		
U1024	Driving flange	1	FFU1024A	2.75	RRU1024	4.50
U1050	Bearing retainer for 2 to 1 reduction. R.H. rotation	1	FFU1050	1.00		
U1051	Gasket for outboard bearing cover U647C	1	FFU1051	.05	RRU1051	.05
U1073	Outer felt washer retainer for reduction gear housing cover and part U647C	1	UF1073	.05	RU1073	.05
U1073A	Outer felt washer retainer for outboard bearing U613	1	FFU1073	.05	RRU1073	.15
U1087	Bell housing. Used on engines previous to engine No. 11798. Obsolete	1	FFU1087	13.75		
U1087A	Bell housing. Used on engines numbered after engine No. 11797	1	FFU1087A	10.00		
U1087B	Bell housing for NNU engine	1	NNU1087	9.00		
U1087C	Bell housing for RRU, YYU and JJU	1			RRU1087	12.50
U1088	Gasket, bell housing to cylinder. For engines previous to No. 11798. Obsolete	1	FFU1088	.05		
U1088A	Gasket, bell housing to cylinder. For engines numbered after No. 11797	1 or more	FFU1088A	.05		
U1088B	Gasket, bell housing to cylinder. RRU, YYU and JJU engines	1			RRU1088	.10
U1107	Gasket, outboard bearing to bell housing	1 or more	FFU1107	.05	RRU1107	.15
U1107A	Gasket, outboard bearing to bell housing, NNU only	1 or more	NNU1107	.05		
U1119	3/8" S.A.E. nut for clutch and power shaft for 4 to 1 reduction. R.H. and L.H. rotation	1	FFU1119	.15		
U1130	Hand hole cover for gear reduction U642E. 2 to 1, R.H.	1	FFU1130	.40		
U1148	Spacer for clutch and drive shaft on 3 to 1 R.H. and 2 to 1 L.H. reductions	1	FFU1148	.60		
U1148	Spacer for clutch and drive shaft on 4 to 1 R.H. and L.H. reductions	1	FFU1148A	.90		
U1148	Spacer for drive shaft for 3 to 1 reduction	1	FFU1148B	.60		
U1148	Spacer for clutch and drive shaft on 2 to 1 R.H. reduction	1	FFU1148D	.65		
U1148A	Spacer for power shaft	As required	FFU1148G	.05		
U1227	No. 149 triple Diamond chain, 38 links, 5/16" pitch. 400 roller diameter	1	FFU1227	12.50		
U1285	Spacer for clutch shaft bearing, 2 to 1 L.H.; 3 to 1 R.H. and L.H.; 4 to 1 R.H.	1			RRU1285	4.30
U1285A	Spacer for clutch shaft bearing, 2 to 1 R.H.	1			RRU1285A	4.30

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



CLUTCH ASSEMBLIES

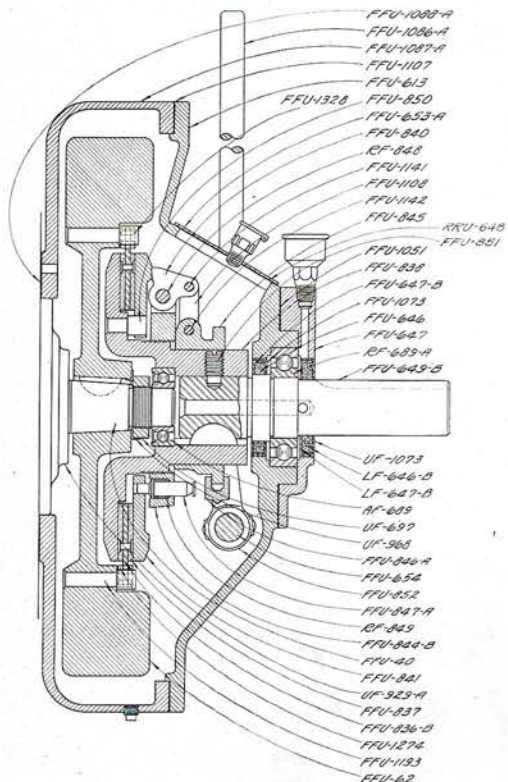


Fig. C457
Models NNU, FFU, HHU

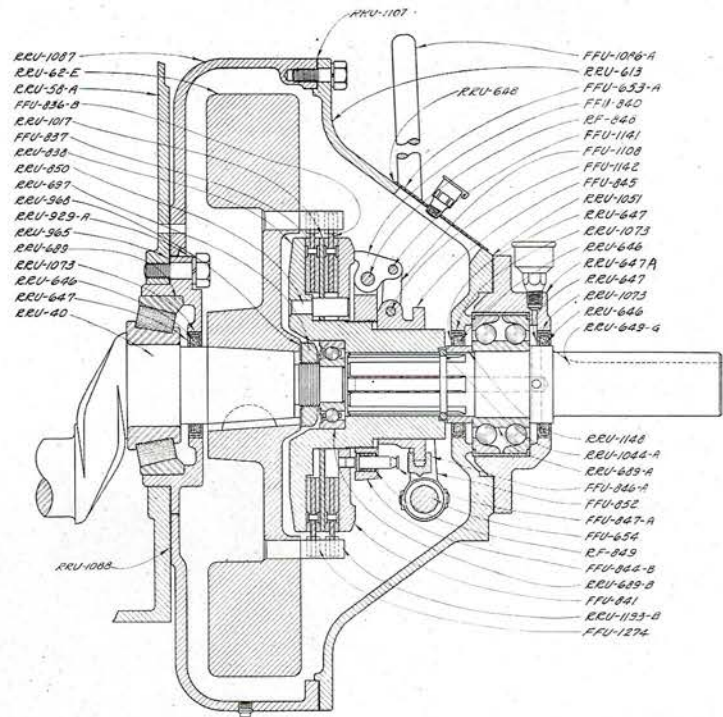


Fig. D129
Models RRU, YYU, JJU

Part No.	NAME OF PART	No. Used	MODELS NNU-FFU-HHU		MODELS RRU-YYU-JJU	
			Symbol	Price	Symbol	Price
U62A	Flywheel and clutch drive pin assembly for FFU and HHU; RRU, YYU and JJU	1	T3803	15.00	T4225	22.50
U62B	Flywheel and clutch drive pin assembly for NNU only	1	T4242	14.35		
U613	Outboard bearing (bell housing)	1	FFU613	10.00	RRU613	22.00
U613A	Outboard bearing (bell housing), NNU only	1	NNU613A	9.25		
U635A	Clutch shaft for 2 to 1 L.H. and 3 to 1 R.H. reductions	1	FFU635	4.60		
U635B	Clutch shaft for 4 to 1 reduction, R.H. and L.H. rotation	1	FFU635B	8.00		
U635C	Clutch shaft for 4 to 1 reduction. R.H. and L.H. rotation, for U632L gear. Obsolete	1	FFU635A	8.15		
U646	Felt washer for reduction gear housing cover and part U647C	1	LF646B	.10		
U646A	Felt washer for outboard bearing (bell housing), U613	1	FFU646	.10	RRU646	.20
U646B	Felt washer	1			RRU646A	.25
U647A	Inner felt washer retainer for gear reduction housing cover and part U647C	1	LF647B	.05	RRU647	.10
U647B	Inner felt washer retainer for outboard bearing (bell housing), part U613	1	FFU647B	.10	RRU647	.15
U647C	Cover and felt washer retainer for outboard bearing (bell housing), part U613	1	FFU647	2.00	RRU647A	5.50
U648	Casket for hand hole cover	1	RRU648	.10	RRU648	.10
U649F	Drive shaft for 2 to 1 reduction. R.H. rotation	1	FFU649F	4.75		
U649G	Drive shaft for 3 to 1 and 4 to 1 reduction. R.H. rotation	1			RRU649A	17.00
U649H	Drive shaft for 2 to 1 reduction. R.H. rotation	1			RRU649E	21.15
U649J	Drive shaft for 2 to 1 reduction. L.H. rotation	1			RRU649F	19.00
U649K	Drive shaft. Crank shaft drive	1			RRU649G	9.60
U649L	Drive shaft for 3 to 1 and 4 to 1 reduction. R.H. rotation	1			RRU649H	29.00
U649M	Drive shaft for 2 to 1 reduction. R.H. rotation	1			RRU649J	25.85
U649N	Drive shaft for 2 to 1 reduction. L.H. rotation	1			RRU649K	21.00
U649O	Drive shaft for 3 to 1 reduction. L.H. rotation	1			RRU649Q	28.75
U649P	Drive shaft for crankshaft drive	1	FFU649B	5.00	RRU649	10.50
U653A	Cover for outboard bearing assembly	1	T3458	.35	T3458	.35
U654	Clutch shifter shaft	1	FFU654	.30	FFU654	.30
U654	Clutch shifter shaft, NNU only	1	NNU654	.15		
U654A	Clutch shifter shaft assembled with parts U654, U852 and X559	1	T3541	2.85	T3541	2.85

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



Part No.	NAME OF PART	No. Used	MODELS		MODELS	
			NNU-FFU-HHU Symbol	Price	RRU-YYU-JJU Symbol	Price
U654B	Clutch shifter shaft assembled with parts U654, U852 and X559, NNU only	1	T4239	3.75		
U689	No. ND1208 ball bearing for clutch and drive shaft	1	RF689A	5.85		
U689	No. ND309 ball bearing for clutch and drive shaft	1				
U689G	No. 7305 ND ball bearing	1			RRU689A	8.50
U689H	No. 7505 ND ball bearing for clutch hub, notched cone flush type	1			RRU689B	4.10
U697	Nut for drive shaft for 2 to 1 and 3 to 1 reductions	1	AF689	3.00		
U836	Clutch disc with facings and pins. 1 on FFU and HHU; 2 on RRU, YYU and JJU	1	RU697	.55	RU697	.55
U836A	Clutch disc assembled with U836, U837 and X709. 1 used on FFU and HU; 2 on RRU, YYU and JJU	1	T3973	2.85	T3973	2.85
U838	Clutch hub with drive pins U850	1	105FFUA	5.50	105FFUA	5.50
U837	Facing for clutch disc	2	FFU838	6.80	RRU838	12.00
U840	Clutch finger	4	FFU837	1.00	FFU837	1.00
U841	Pressure plate	4	FFU840	.25	FFU840	.25
U844	Adjusting ring	1	FFU841	3.60	FFU841	3.60
U845	Sleeve for clutch	1	FFU844B	2.60	FFU844B	2.60
U846A	Clutch shifter	1	FFU845	2.90	FFU845	2.90
U847	Lock pin for adjusting ring	1	FFU846A	1.20	FFU846A	1.20
U848	Clutch finger pin	4	FFU847A	.25	FFU847A	.25
U849	Spring	1	RF848	.15	RF848	.15
U850	Driver for pressure plate	4	RF849	.05	RF849	.05
U851	Set screw for clutch hub	1	FFU850	.15	RRU850	.25
U852	Shifter lever	2	FFU851	.20		
U968A	Lock washer for nut U697	1	FFU852	1.10	FFU852	1.10
U1017	Center steel clutch disc	1	RU968	.10		
U1044	Thrust ring	1			RRU1017	.70
U1051	Gasket for outboard bearing cover U647C	1			RRU1044A	.15
U1073	Outer felt washer retainer for reduction gear housing cover and part U647C	1	FFU1051	.05	RRU1051	.05
U1073A	Outer felt washer retainer for outboard bearing U613	1	UF1073	.05	RU1073	.05
U1086A	Clutch handle assembly	1	FFU1073	.05	RRU1073	.15
U1087	Bell housing (used on engines numbered previous to engine No. 11798.) Obsolete	1	T3527	2.60	T3527	2.60
U1087A	Bell housing (used on engines numbered after No. 11797)	1	FFU1087	13.75		
U1087B	Bell housing for NNU engine	1	FFU1087A	10.00		
U1087C	Bell housing for RRU, YYU and JJU	1	NNU1087	9.00		
U1088	Gasket for bell housing to cylinder. (Engines numbered previous to No. 11798.) Obsolete	1			RRU1087	12.50
U1088A	Gasket for bell housing to cylinder. (Engines numbered after No. 11797)	1 or more	FFU1088	.05		
U1088B	Gasket for bell housing. RRU, YYU and JJU	1	FFU1088A	.05		
U1107	Gasket for outboard bearing to bell housing	1 or more			RRU1088	.10
U1107A	Gasket for outboard bearing to bell housing, NNU only	1 or more	FFU1107	.05	RRU1107	.15
U1108	Link for clutch finger	8	NNU1107	.05		
U1119	3/8" S.A.E. nut for drive shaft for 4 to 1 reduction. R.H. and L.H. rotation	1	FFU1108	.10	FFU1108	.10
U1141	Pin for clutch finger link, short	4	FFU1119	.15		
U1142	Pin for clutch finger link, long	4	FFU1141	.10	FFU1141	.10
U1148	Spacer for drive shaft on 3 to 1 R.H. and 2 to 1 L.H. rotations	1	FFU1142	.10	FFU1142	.10
U1148	Spacer for drive shaft on 4 to 1 R.H. and L.H. reductions	1	FFU1148	.60		
U1148	Spacer for drive shaft for 3 to 1 reduction	1	FFU1148A	.90		
U1148	Spacer for drive shaft on 2 to 1 R.H. reduction	1	FFU1148B	.60		
U1148B	Spacer for drive shaft	1	FFU1148D	.65		
U1193	Pin for clutch driver	8			RRU1148	1.60
U1193A	Pin for clutch driver	8	FFU1193	.16	RRU1193	.30
U1193B	Pin for clutch driver	8			RRU1193A	1.15
U1210	3/4" diameter, 1 5/8" long oil wick	1			RRU1193B	.30
U1285	Spacer for clutch shaft bearing. 2 to 1 L.H.; 3 to 1 R.H. and L.H.; 4 to 1 R.H.	1	SU1210	.05		
U1285A	Spacer for clutch shaft bearing. 2 to 1 R.H.	1			RRU1285	4.30
U1345	Washer for shifter shaft	2			RRU1285A	4.30
U1346	Felt washer for shifter shaft	2			RRU1345	.05
					RRU1346	.10

Always Give Model and Serial Number of Engine and Outfit When Ordering Repairs



WARRANTY

Novo Engine Company will guarantee their engines and parts thereof against defective material or workmanship for a period of six months from date of shipment, but not to exceed ninety days of service.

Transportation charges on parts returned, claimed defective, must be prepaid. If such parts are found defective, shall, at the Company's option, be repaired, replaced or credited. No claims will be allowed which, in the Company's opinion, result from engine or parts having been subjected to abuse or neglect or where failure has been caused by accident.

The warranty on accessories furnished with engines is limited to the warranty to the accessory manufacturer.

The Novo Engine Company reserves the right to improve its products thru changes in design or materials without being obligated to incorporate such changes in equipment previously manufactured.

When defective parts are repaired or replaced free of charge or credited, it is agreed the manufacturer is in no way liable for expenditures covering labor or otherwise that may be incurred in the adjustment of the claim covering defective parts.

NOVO ENGINE COMPANY



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