

BOOK No. 68/152

PRICE 2/-

**INSTRUCTION BOOK
AND SPARE PARTS LIST**

Lister

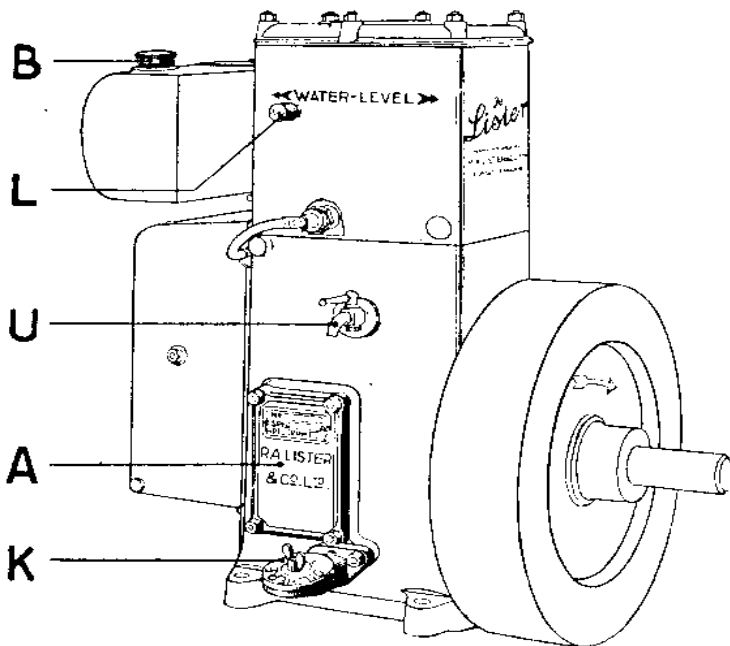
TYPES D & DK

**PETROL AND PETROL-
PARAFFIN ENGINES**

**R. A. LISTER & CO. LTD.,
DURSLEY · GLOUCESTERSHIRE
ENGLAND**

INSTALLATION. Fix the engine level and accessible. Arrange cooling tank with the bottom pipe level and the top pipe a continuous upward slope. If a longer exhaust pipe is necessary use $1\frac{1}{4}$ " bore pipe or larger and turn downward from the engine.

COOLING. Fill water tank, radiator or hopper. If engine is tank cooled see that three-way cock is turned so that water can flow from tank into engine cylinder jacket. Add water as necessary to maintain water level.



EXHAUST. Should be colourless. Black smoke indicates too much fuel, blue smoke too much lubricating oil. Clean out the exhaust pipes when decarbonising.

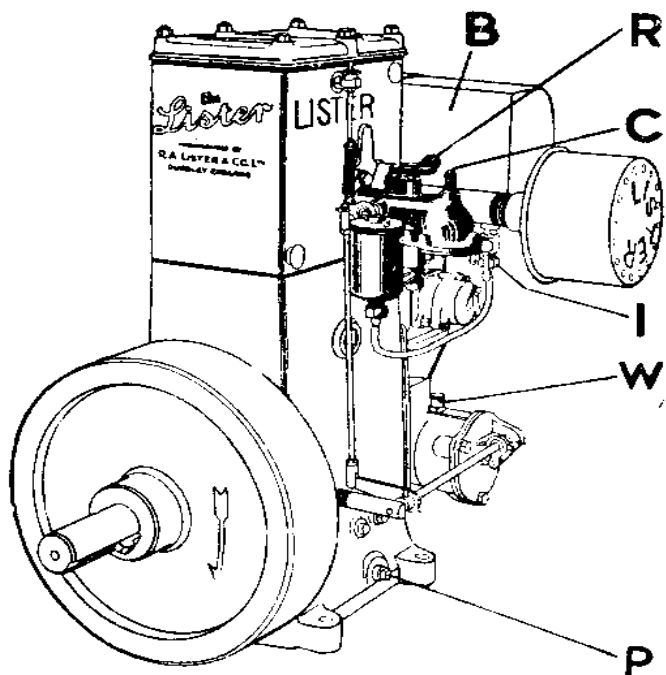
* **LUBRICATION** For petrol engines use Listroil L2 in winter and L3 in summer. For petrol-paraffin engines always use Listroil L3.

Where Listroil is not available, use SAE 30 oil in Temperate Climate and SAE 40 oil in Tropical Climate.

Every three months drain off lubricating oil through plug 'F.' Remove door 'A' and clean out crankcase. Do this every month if engine is running on paraffin.

Always keep the engine sump, Lubricator 'W' and Greaser 'L' filled.

STARTING. New or Overhauled Engine. Remove door 'A' and filler cap 'K' pour lubricating oil * into crankcase until the filler is full. Fill the timing gear trough through hole on the left inside crankcase. Turn Crank to front end of Splash Tray and pour oil over Big End Bearing, particularly into two holes in Connecting Rod Boss, rocking the Shaft at the same time. This will provide the initial lubrication for the Big End Bearing. Further oil as necessary should be added through filler 'K' and oil should always be visible in this filler. Remove plug marked

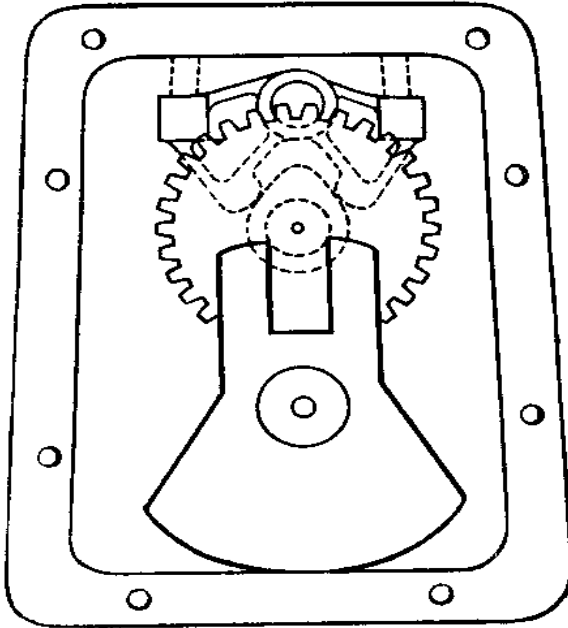


'Oil' under the magneto also the lubricator 'W' and pour a teaspoonful of oil into each hole. Fill lubricator 'W' with oil, fill greaser 'L' with brown grease giving it a few turns. Fill fuel tank 'B' using a fine gauze strainer and see that ignition cable is connected to sparking plug.

TO START PETROL ENGINE. Turn on fuel tap 'I,' pull flywheel in opposite direction to arrow until compression is felt. Turn fuel regulator 'R' to start position, then while turning the starting handle place a finger on the Air valve 'C' to give the necessary rich mixture. After the engine has started turn down the fuel regulator as far as possible without slowing the engine. Every notch reduces fuel consumption and carbon deposit.

TO START PETROL PARAFFIN ENGINE. Drain the float chamber by the small tap and turn fuel tap '1' to petrol and start as above. Allow to run for a few minutes on petrol to warm up before turning fuel tap to paraffin. If the engine misfires place finger on air valve 'C' to allow engine to pick up speed.

TO STOP. Turn fuel regulator down as far as it will go and turn off the fuel tap '1.' Always drain water from cylinder jacket through tap 'U' if there is a possibility of frost.



IGNITION AT FAULT. Clean sparking plug points and re-set gap to .020" and test. Use sparking plugs such as Lodge BBL or equivalent. If a good spark is not seen read magneto Instruction Book.

COMPRESSION. Loss of compression may be due to a valve sticking open or carbon on the valve seat. Pour a little paraffin around each valve stem. Compress each valve spring in turn with a screwdriver or suitable tool and slip it off allowing the valve to close with a snap. Alternatively the loss of compression may be due to no tappet clearance, piston rings stuck in grooves, cylinder worn or cylinder head nuts slack.

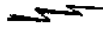
KNOCKING. May be caused by worn bearings, carbon deposit on the piston and cylinder head, overheating, overload, pre-ignition or loose flywheel.

DECARBONISING. This is recommended every three months. Drain water system, remove top covers, sparking plug and radiator fan (if fitted), disconnect throttle rod and fuel pipe. Slide out rocker shaft, removing rockers, push rods and valve stem caps. Remove nuts and washers which secure the cylinder head and lift slightly, free gasket with a thin bladed knife then lift off. Remove five nuts holding main bearing housing to the crankcase. Crankshaft, flywheel and housing can be removed, while supporting the piston and connecting rod, which may then be withdrawn through the top of the cylinder.

Remove all carbon, grind in valves if pitted and replace all parts. Fit the flat side of the connecting rod next to the crank web. The cylinder gasket if damaged must be renewed. Tighten cylinder head nuts evenly and adjust tappet clearance to .031" when cold. After running engine, retighten cylinder head nuts and check tappet clearance.

TIMING VALVES. Turn crankshaft to T.D.C., assemble timing case with cam at the top position as illustrated, the timing case may then be bolted to the crankcase.

If the timing case has been dismantled, turn camshaft with cam at the top, turn trailing shaft with fork at the top and engage gears. Fit spiral gear to end of trailing shaft.

TIMING IGNITION. Turn flywheel until ignition mark  on rim is at the top. Loosen magneto sprocket and turn magneto spindle in the normal direction until the contacts just commence to separate; push the sprocket back on the spindle and tighten nut.

SPARE PARTS LIST

When ordering always give engine and specification numbers, description of part, and part number.

This list is subject to revision without notice.

1 Complete set of Joints for "D" Type Petrol Engines
(ordering Ref. List SP 274) comprises:—

| Description | Material. | Part No. | Description | Material. | Part No. |
|---|-----------|----------|----------------------------------|------------|-----------|
| 1. Joint—Gov. Casing End Cover ... | ... Paper | D149 | 1. Joint—Sparkling Plug ... | ... Copper | 291/2265* |
| 1. " Water Jacket Drain Tap ... | ... Fibre | 5197 | 1. " Starting Handle Bracket ... | ... Paper | D80 |
| 1. " Float Chamber Fixing Plug ... | ... Fibre | 5197 | 1. " Timing Case ... | ... Paper | D90 |
| 1. " Petrol Tank Supply Tap ... | ... Fibre | 5197 | 1. " Petrol Tank Strainer ... | ... Fibre | 12406 |
| 1. " Timing Case Oiling Plug ... | ... Fibre | 5197* | | | |
| 2. " Fan Pulley Grease Plug (Rad. Co. only) | ... Fibre | 5197 | | | |
| 1. " Float Chamber to Carburettor ... | ... Fibre | D320 | | | |
| 1. " Carburettor Flange ... | ... Cork | D198* | | | |
| 1. " Crankcase Door ... | ... Fibre | D98 | | | |
| 1. " Water Jacket Plug ... | ... Fibre | 3306 | | | |
| 1. " Oil Filler ... | ... Fibre | D247 | | | |
| 1. " Main Bearing Housing ... | ... Paper | D87 | | | |
| 1. " Cylinder Head ... | ... C & A | D91* | | | |
| 1. " " Valve Rocker Cover | ... Fibre | D88* | | | |

* Joints marked thus—for Decarbonising Only.
1 Complete set of Joints for 'D' Type Paraffin Engines, comprises parts as List SP 274 together with:—

Description

| | | |
|--------------------------------------|--------------|--------|
| 1. Joint—Float Chamber Drain Tap ... | ... Fibre | 12420 |
| 1. " Vaporiser to Cylinder ... | ... Asbestos | 1/1066 |
| 1. " Paraffin Tank Strainer ... | ... Fibre | 12406 |
| 1. " " Supply Tap ... | ... Fibre | 5197 |

OVERSIZE PARTS.

Pistons, Piston Rings and Cylinders (Crankcases) can be supplied: .010", .020" and .040" oversize.

STANDARD ROTATION.—When viewing the Engine from Starting Handle end, Starting Handle turns clockwise and Flywheel rotates in the opposite direction.

Reverse rotation can be supplied to order, in which case the letter "R" will be added to the Engine Specification No. stamped on the number plate.

e.g. 1½ HP Hopper Cooled Engine Clockwise Rotation Spec. 27DH.

1½ HP Hopper Cooled Engine Anti-clockwise Rotation Spec. 27DHR.

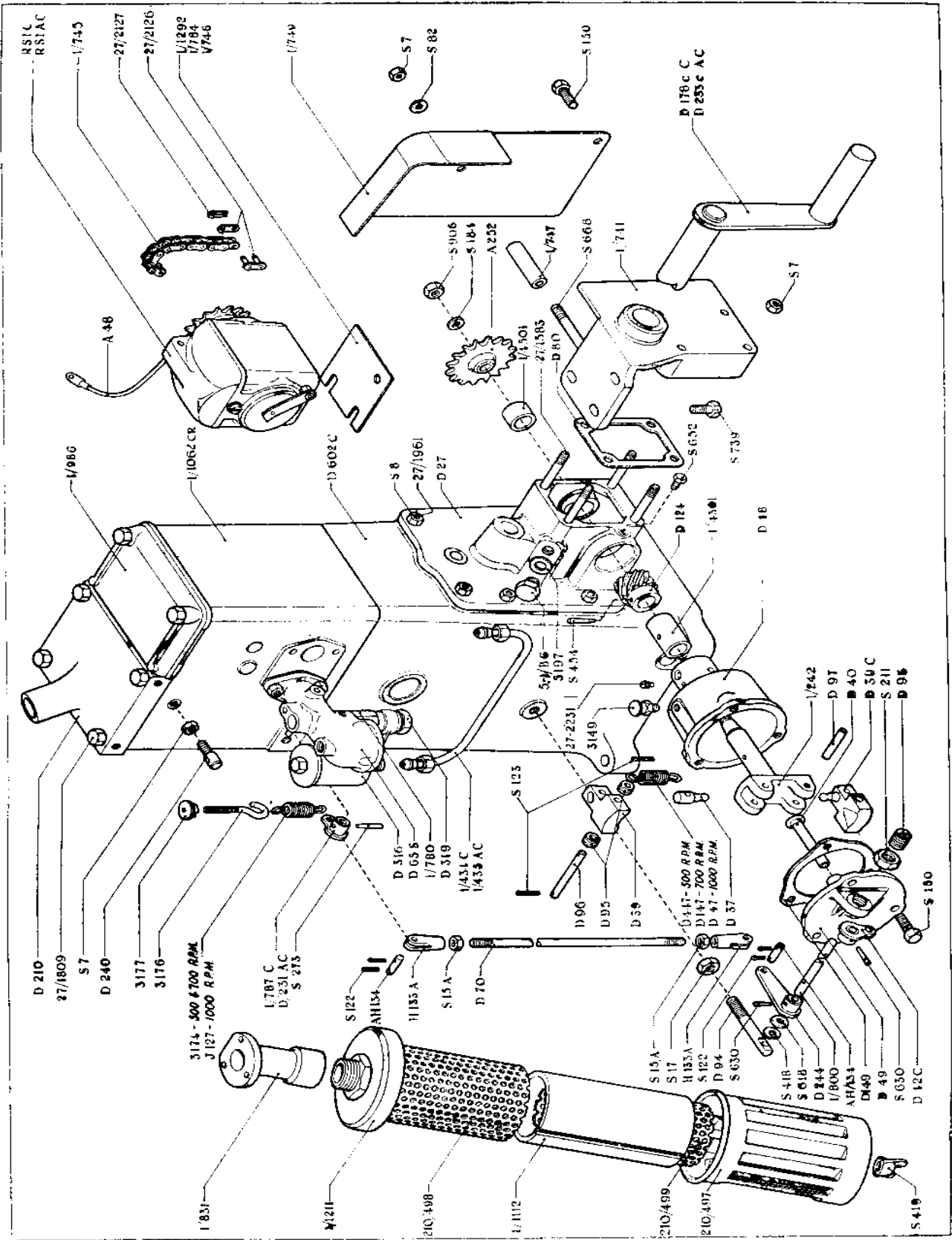


PLATE 1

PLATE 1

FOR ILLUSTRATION OF THESE PARTS REFER TO PAGE 4

| | Order Part No. | No. | | Order Part No. | No. |
|--|----------------|-----|---|----------------|-----|
| AIR FILTER (Felt pattern Lister) Assembly | 1/830c | 1 | Governor Rod bare, C. or A.C. | 1/800 | 1 |
| Connection on Carburettor | 1/831 | 1 | Lever Governor End comprising Lever D42, | D42C | 1 |
| Felt Sleeve for Filter | 1/1112 | 1 | Roller 3172, Pin D107 | D244 | 1 |
| | | | Lever Crankcase End | S630 | 2 |
| GOVERNOR for 700 R.P.M. | D267/3 | 1 | " Taper Pin (Size 1) | D93 | 1 |
| Complete for 1000/1250 R.P.M. | D268/3 | 1 | Rod Adjustable Support on End Cover | S211 | 1 |
| (Comprising the following parts): | | | " Lock Nut | D94 | 1 |
| Casing with Bush 1/4301 | D48B | 1 | " Support (fixed) on Crankcase | S17 | 1 |
| Bush long | 1/4301 | 1 | Lock Nut for fixed Support | S418 | 1 |
| " short | 1/4501 | 1 | Spring Washer for Governor Rod | S618 | 2 |
| Casing Lubricator | 3149 | 1 | Plain | 3174 | 1 |
| Casing End Cover | D49 | 1 | Outside Spring for 700 R.P.M. | J127 | 1 |
| Joint for " | D149 | 1 | " " " 1000 R.P.M. | T192 | 1 |
| Set Screw " | S150 | 3 | " " " 1100 to 1250 R.P.M. | 3176 | 1 |
| Governor Shaft | 1/242 | 1 | Spring Adjusting Hook 3/16" Whit. | 3177 | 1 |
| Spiral Gear on Governor Shaft | D124 | 1 | " Nut | D70c | 1 |
| Taper Pin for Spiral Gear (No. 1) | S454 | 1 | Throttle Connecting Rod complete | H133A | 2 |
| Governor Weights 500/1250 R.P.M. | D39c | 2 | " " " Fork | S15A | 2 |
| With Operating Pins | | | " " " Lock Nut | AH134 | 2 |
| Weight Operating Pin | D37 | 2 | " " " Split Pin | S122 | 4 |
| Weight Spring | D447 | 2 | | | |
| " Spindle | D147 | 2 | MAGNETO (R.S.I.) Type. | | |
| " Spring Pin | D47 | 2 | Magneto for R.H. Starting Engines, Clock- | | |
| " Roller | D97 | 2 | wise | | |
| Split Pin for Roller Spring Pin | D96 | 2 | Magneto for L.H. Starting Engines, Anti- | | |
| Governor Push Rod | D95 | 4 | clockwise | | |
| Dowel Screw for Casing | S123 | 4 | Magneto Top Cover | 457, 634 | 1 |
| Taper Reamer for No 1 Taper Pin | D40 | 1 | Contact Set | 457, 525 | 1 |
| | S652 | 1 | Coil | 458, 137 | 1 |
| | S751 | 1 | Condenser | 457, 524 | 1 |
| | | | Contact Breaker Cover | 457, 489 | 1 |
| GOVERNOR FITTINGS | | | Spring Clip and Pin Assembly for do. | 457, 491 | 1 |
| Governor Rod c/w Levers. (Clockwise | 1/840 | 1 | Screwdriver and Points Gauge | 27-1922 | 1 |
| Petrol) (Anticlock | | | Magneto Sprocket (on Magneto) | A252 | 1 |
| Petrol) (Clockwise | 1/841 | 1 | Driving Sprocket | A252 | 1 |
| Paraffin) | | | Washer for " | S184 | 1 |
| (Anticlock | 1/841 | 1 | Nut | S906 | 1 |
| Paraffin) | | | Magneto Driving Chain, 44 Links | 1/745 | 1 |

| | Order Part No. | No. |
|---|-------------------|-----|
| Connecting Link for Chain | 27-2126 | 1 |
| Spring Clip for Connecting Link | 27-2127 | 1 |
| Magneto Chain Guard | 1/749 | 1 |
| Distance Piece for Chain Guard | 1/747 | 1 |
| Stud | S668 | 1 |
| Washer | S82 | 3 |
| Nut | S7 | 1 |
| Set Screw | S150 | 1 |
| Shim for Adjustment of Chain | 1/746 | — |
| " | 1/784 | — |
| " | 1/1292 | — |
| Magneto Cable (with Brass End 3244) | A48/13 | 1 |
| Bracket for Magneto and Starting Handle | 1/741 | 1 |
| Set Screw—Magneto to Bracket | S739 | 3 |
| STARTING HANDLE | | |
| Starting Handle complete for standard (Rt. Hand) Rotation — comprising: Clutch D177, Tube D178, Spindle D179 and Crank D180 | D178c | 1 |
| Starting Handle complete for reversed (Left Hand) Rotation — comprising: Clutch D233, Tube D178, Spindle D179, Crank D180 | D233c | 1 |
| Starting Handle Bracket | D80 | 1 |
| " " Nut | S7 | 4 |
| MISCELLANEOUS. | | |
| INSTRUCTION and Spare Parts Book | Book 68 | 1 |
| JOINTS—Complete Set | As List No. SP274 | — |
| SPANNERS | | |
| Spanner 3/16" x 1/4" | S323 | 1 |
| 5/16" x 3/8" | S151 | 1 |
| Box Spanner for Sparking Plug | 3352 | 1 |
| " " Cylinder Head Nuts | D12 | 1 |
| SPARKING PLUG | | |
| Sparking Plug Lodge B.B.L. | A97 | 1 |
| " " Joint | 291-2265 | 1 |
| WATER TANK AND FITTINGS | | |
| Water Tank 24 Gall. (temp.) 16" x 33" | A405 | 1 |
| " " 50 Gall. (tropical) 23" x 33" | 3405 | 1 |
| 3/4" 3-Way Cock | S386 | 1 |
| 3/4" Pipe 2" long. Screwed one end | S712 | 3 |
| 3/4" Nipple (Plain) | S373 | 1 |
| Hose Pipe 6" long 1" Bore (Top) | 27/2353 | 1 |
| " " 4" long 1" Bore (Bottom) | 27/2339 | 1 |
| " " Clips for 1" Bore Hose | H95 | 4 |
| 1"-3/4" Reducing Bush (Temperate) | S376 | 2 |
| 1"-3/4" " (Tropical) | S376 | 3 |
| 3/4" Spring Bend 120° Scr. one end (Bottom) | 27/2354 | 1 |
| 3/4" " 150° " (Top) | 27/2352 | 1 |
| Thermostat | 8-2-181 | 1 |
| 1 1/4" Bore Hose 6" long | 27/1756 | 2 |
| Clips for ditto | 3404 | 4 |
| 1" Spring Bend 120° Tank Cooled | S174 | 1 |
| 1" " 150° Engines | S244 | 1 |
| 1" Bore Hose 6" long | 27/2353 | 2 |

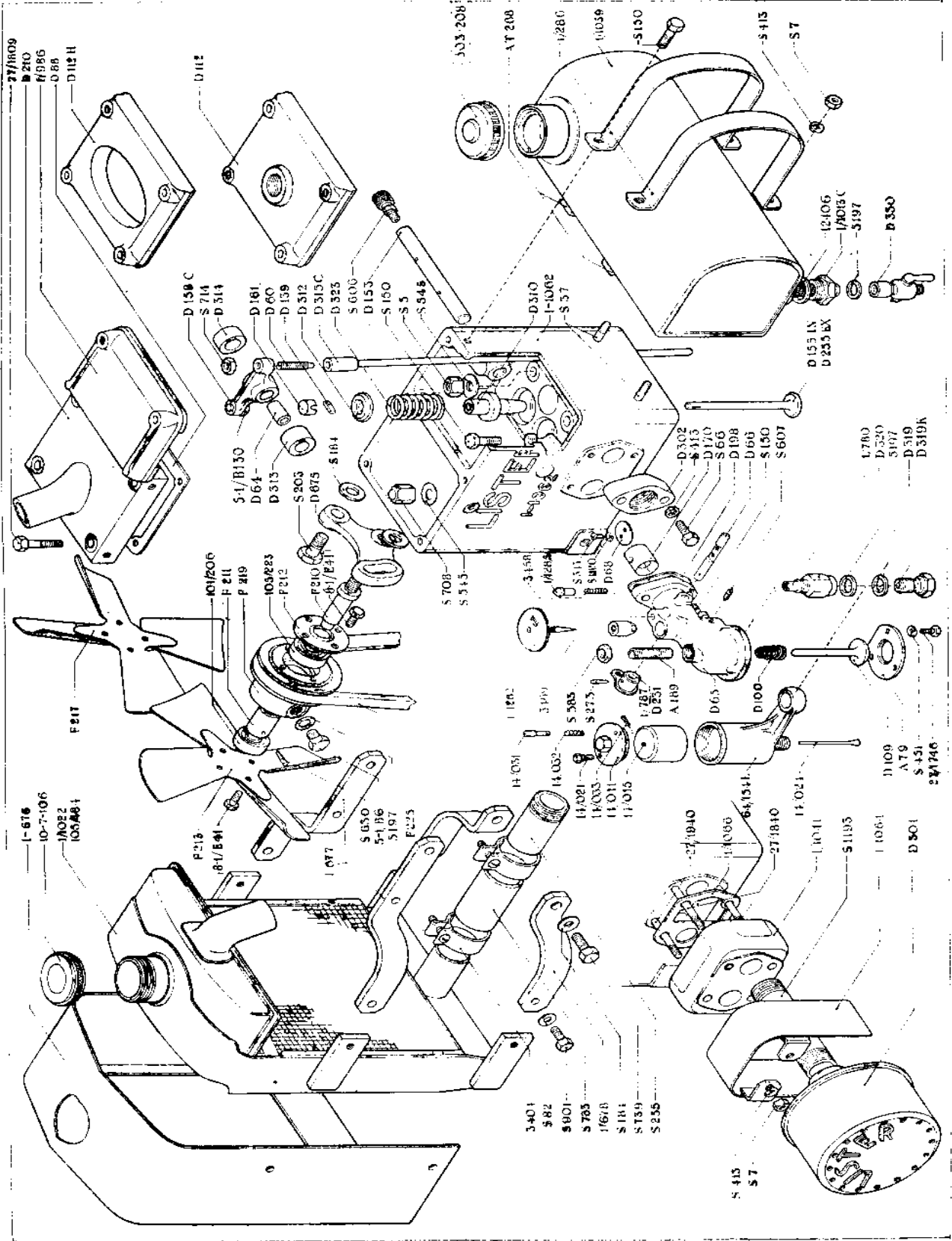


PLATE 2

PLATE 2

FOR ILLUSTRATION OF THESE PARTS REFER TO PAGE 7

| | Order Part No. | No. | | Order Part No. | No. |
|--|----------------|-----|---|----------------|-----|
| CARBURETTOR, Complete with Float Chamber. | | | | | |
| For Clockwise Petrol Engine | 1/802 | — | Throttle Lever Taper Pin (No. 0) | S273 | 1 |
| " Anticlock | 1/804 | — | Float Chamber complete | D316 | 1 |
| " Clockwise Paraffin Engine | 1/1252 | — | " " (Bare) | 64/154L | 1 |
| " Anticlock | 1/1254 | — | " " Cover c/w Tickler and Lock-screw | 14/208 | 1 |
| Comprising the following parts: | | | " " Cover (Bare) | 14/011 | 1 |
| Carburettor Body (bare) | D65s | 1 | " " Locking Screw | 14/021 | 1 |
| Air Valve | D109 | 1 | " " Needle | 14/024 | 1 |
| " " Spring | D100 | 1 | " " Tickler with Spring and Split Pin | 14/031/ | 1 |
| " " Adjuster | A189 | 1 | Float | 032 033 | 1 |
| " " Lock Nut | S583 | 1 | Chamber Fixing Plug | 14/015 | 1 |
| " " Plate (seat) | A79 | 1 | " " " " Joint | D319 | 1 |
| " " Screws | 27/1746 | 3 | " " " " Paraffin | 5197 | 1 |
| " " Studs (for Air Cleaner fitting) | 27/1961 | 3 | " " " " Engine | D319K | 1 |
| " " Nuts (for Air Cleaner fitting) | S8 | 3 | Drain Tap | 301/471 | 1 |
| " " Spring Washer (for Air Cleaner fitting) | S451 | 3 | " " Joint Washer | 12420 | 1 |
| Choke Tube | D170 | 1 | Float Chamber Joint Washer | D320 | 1 |
| Petrol Regulator with Head | 1/1282 | 1 | Set Screw for fixing Carburettor | S150 | 2 |
| " " Bush | 3469 | 1 | Carburettor Flange Joint | D198 | 1 |
| " " Plunger | 1/1285 | 1 | Taper Reamer for size 0 Taper Pin | S750 | 1 |
| " " Spring | 3458 | 1 | Special Parts on Paraffin Engine only:— | | |
| Jet | 1/780 | 1 | Vaporiser | 1/1041 | 1 |
| " Locking Screw | S607 | 1 | " " Joint | 1/1066 | 1 |
| Throttle Plate | D68 | 1 | Stud for Vaporiser and Carburettor | 27/1840 | 2 |
| " " Screw | S543 | 2 | " " Exhaust Flange | 27/1940 | 2 |
| " " Spring Washer | S1129 | 2 | Nuts " Studs 5/16" Whit. | S7 | 4 |
| " Spindle | D66 | 1 | Spring Washers for Exhaust Flange | S413 | 2 |
| " Lever—For R.H. Rotation Petrol Engine | 1/787 | 1 | Vaporiser Cover for Radiator Cooled only | 1/1064 | 1 |
| " " for L.H. Rotation Petrol Engine | D231 | 1 | | | |
| " " for R.H. Rotation Petrol-Paraffin Engine | D231 | — | CYLINDER HEAD | | |
| " " for L.H. Rotation Petrol-Paraffin Engine | 1/787 | — | Cylinder Head with the following fittings | | |
| | | | only | 1/1062s | 1 |
| | | | Stud for Fuel Tank Strap | S37 | 2 |
| | | | Valve Guide | D310 | 2 |
| | | | Spring Anchor Pin (Petrol) | D240 | 1 |
| | | | " " (Paraffin) | 1/1065 | 1 |
| | | | " " Nut | S7 | 1 |

| | Order Part No. | No. | | Order Part No. | No. |
|--|----------------|-----|--|----------------|-----|
| CYLINDER HEAD with the above fittings and the following parts: | | | Grub Screw for Radiator Support Boss .. | 3104 | 1 |
| Inlet Valve | 1/1062c | 1 | Cylinder Head Water Jacket Cover Set Screw | 27/1809 | 6 |
| Exhaust " | D155IN | 1 | Plug (when Radiator not fitted) | 27/1968 | 1 |
| Valve End Cap | D255EX | 1 | | | |
| " Spring | D161 | 2 | | | |
| " Carrier | D323 | 2 | | | |
| " Cotter | D312 | 2 | | | |
| " | D139 | 2 | | | |
| CYLINDER HEAD with Valves and the following valve rocker parts: | | | FUEL TANK AND FITTINGS | | |
| Valve Rocker, with Bush D64 and Striking Pin | 1/1062CR | 1 | Fuel Tank | 1/1059 | 1 |
| Bush for Valve Rocker | D158c | 2 | " Filler Cap | 27-3825 | 2 |
| Valve Rocker Adjusting Screw | D64 | 2 | " Felt Pad | AT268 | 2 |
| " " " Lock Nut | D60 | 2 | " Strap | 1/286 | 2 |
| " " Shaft with End Plug | S714 | 2 | " " Set Screw | S150 | 2 |
| " " End Plug | D153 | 1 | " " Spring Washer | S413 | 2 |
| " " Grease Cup | D152 | 1 | " " Nut | S7 | 2 |
| " " Fixing Set Pin | S606 | 1 | " " Strainer | 1/1013c | 1 |
| " " Centre Collar | S150 | 1 | " " Joint | 12406 | 1 |
| " " End Collar | D313 | 1 | " Funnel with Strainer | 3298 | 1 |
| | D314 | 2 | For Petrol Engine only | | |
| CYLINDER HEAD FITTINGS | | | Petrol Tap | D330 | 1 |
| Cylinder Head Gasket | D91 | 1 | " Joint | 5197 | 1 |
| Washer for holding down studs | S545 | 5 | " Pipe with Unions | 1/434 | 1 |
| 7/16" Hex. Cap Nut for Cylinder Studs S535 | S708 | 3 | " For Clockwise Rotation. D Type | 1/435 | 1 |
| 7/16" Plain Nut | S5 | 2 | " Anti-clock | | |
| Valve Push Rod | D315C | 2 | For Petrol-Paraffin Engine only. From Engine No. 18704. | | |
| Cylinder Exhaust Flange (for 1" bore pipe) | D302 | 1 | Petrol Container | 205/876 | 1 |
| Set Pin for | S66 | 2 | " Filler Cap | 27-3825 | 1 |
| Spring Washer | S413 | 2 | " Bracket | 1/1240 | 2 |
| Cylinder Head Valve Rocker Cover | 1/986 | 1 | " Bolt | S150 | 2 |
| " " Water Jacket Cover (Tank Cooled Type) | D112 | 1 | " Nut | S7 | 2 |
| Cylinder Head Cover (Hopper Cooled Type) | D112H | 1 | " Washer | S413 | 2 |
| " " (Rad. Cooled Type) | D210 | 1 | " and Paraffin Taps | D330 | 2 |
| " " Joint (combined) | D88 | 1 | " Tap Joints | 5197 | 2 |
| Grub Screw for Anchor Pin hole (clockwise) | S607 | 1 | " Pipe | | |
| " " " (anti-clockwise) | | 1 | " For Clockwise Rotation. DK Type | 1/1229 | 1 |
| " " " clockwise) | | 1 | " Anti-clock | 1/1231 | 1 |
| | | | Paraffin Pipe | | |
| | | | " For Clockwise Rotation. DK Type | 1/1230 | 1 |
| | | | " Anti-clock | 1/1232 | 1 |
| | | | " Fuel Two-Way Tap | D196 | 1 |

PLATE 2 (Continued) FOR ILLUSTRATION OF THESE PARTS REFER TO PAGE 7

| | Order Part No. | No. | | Order Part No. | No. |
|---|----------------|-----|---|----------------|-----|
| RADIATOR | | | Fan Pulley Ball Bearing (large) LS7H .. | 210 326 | 1 |
| Radiator for Temperate Climate .. | 1/1022 | 1 | " " " " (small) LS5H .. | *101/206 | 1 |
| " " Tropical .. | 105/484 | 1 | Thrust Tube for Ball Bearing .. | *F211 | 1 |
| " " Filler Cap .. | 10/7/106 | 1 | Taper Pin for do. No. 1 x 1" .. | S630 | 1 |
| " " Cover .. | 1/676 | 1 | Grease Plug for Pulley .. | *5-1/B6 | 2 |
| Water Pipe 1" x 2 1/2" long S.I.E. .. | S255 | 1 | Joint Washer for " .. | *5197 | 2 |
| Hose Connection 2 3/4" long x 1 1/4" Bore .. | S733 | 2 | Fan Pulley Thrust Plate .. | *F212 | 1 |
| " " Clip .. | 3404 | 4 | Set Screws Fan Lever to Cylinder Head .. | S203 | 2 |
| Radiator Support (Top) .. | 1/677 | 2 | Fan Lever with Spindle F210 riveted in .. | *D675C | 1 |
| " " Support (Bottom) .. | 1/678 | 2 | Plain Washers .. | S184 | 2 |
| Set Screw Supports to Engine .. | S739 | 6 | Set Screws Dust Cover to Fan Pulley .. | S203 | 2 |
| 3/8" Plain Washer for ditto .. | S184 | 10 | Fan Belt (V Type No. 46A) .. | F225 | 1 |
| Set Screw Supports to Radiator .. | S901 | 4 | Drain Tap .. | D610 | 1 |
| 5/16" Plain Washer for ditto .. | S82 | 4 | " " " " Joint Washer .. | 5197 | 2 |
| | | | " " " " Adaptor .. | D236 | 1 |
| | | | " " " " Joint .. | 3306 | 1 |
| FAN PULLEY ASSEMBLY COMPLETE, F220 | | | Flywheel Fan Pulley .. | F224 | 1 |
| comprising parts marked * | | | " " " " Bolt .. | S201 | 3 |
| Fan Blade Assembly complete R.H. rotation *F213 | | 1 | " " " " Spring Washer .. | S393 | 3 |
| " " " " L.H. rotation *F217 | | 1 | " " " " Nut .. | S6 | 3 |
| " " " " " " *F210 | | 1 | | | |
| Set Screws fan to pulley and thrust plate 8-1/E41 | | 8 | SILENCER | | |
| Spring Washers .. | S451 | 8 | Silencer complete with 1" bore pipe D&DK | D301C | 1 |
| Fan Pulley .. | *F219 | 1 | " " " " Pipe, 1" B.S.P. x 5 1/2" long .. | S1193 | 1 |
| | | | " " " " Flange .. | D302 | 1 |

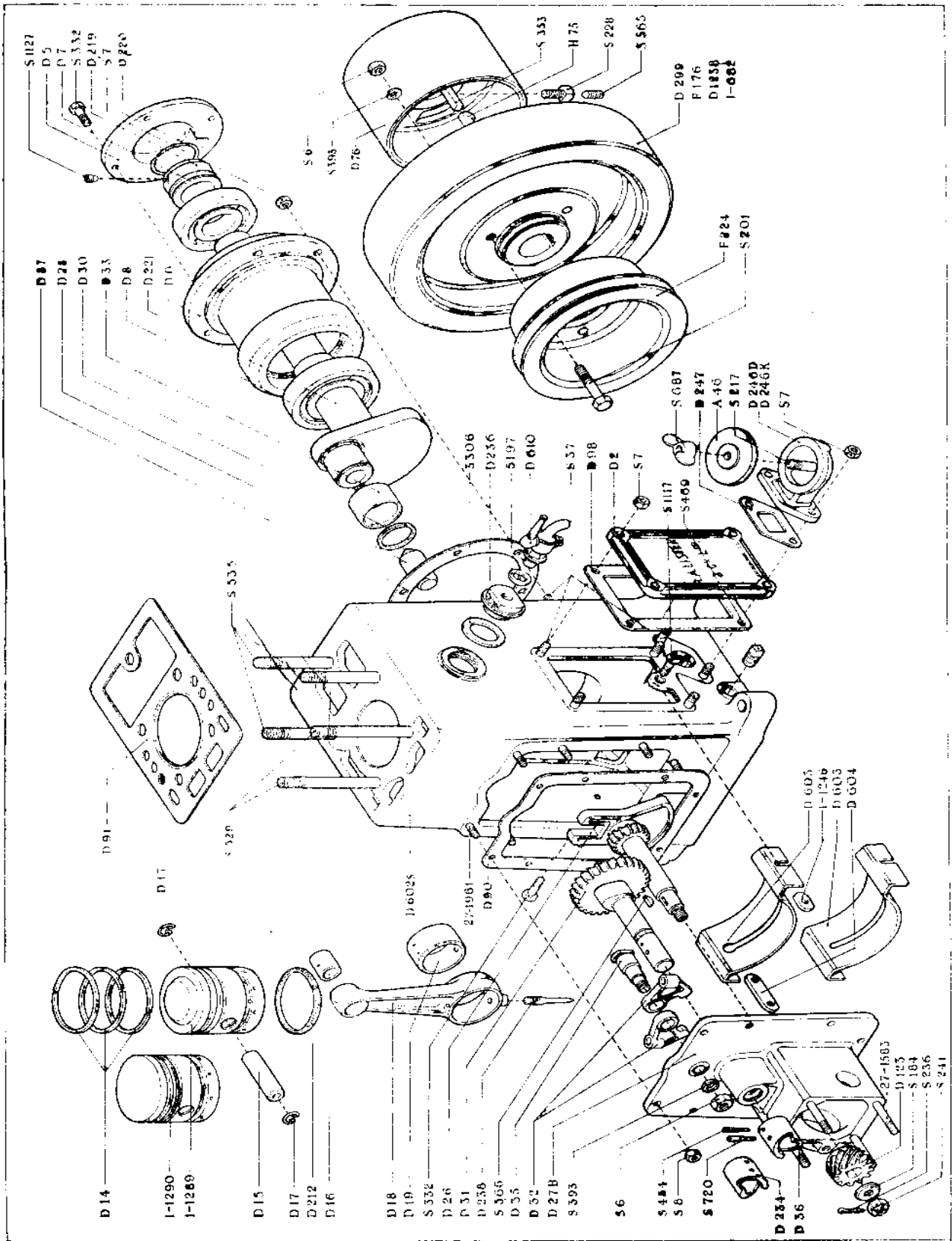
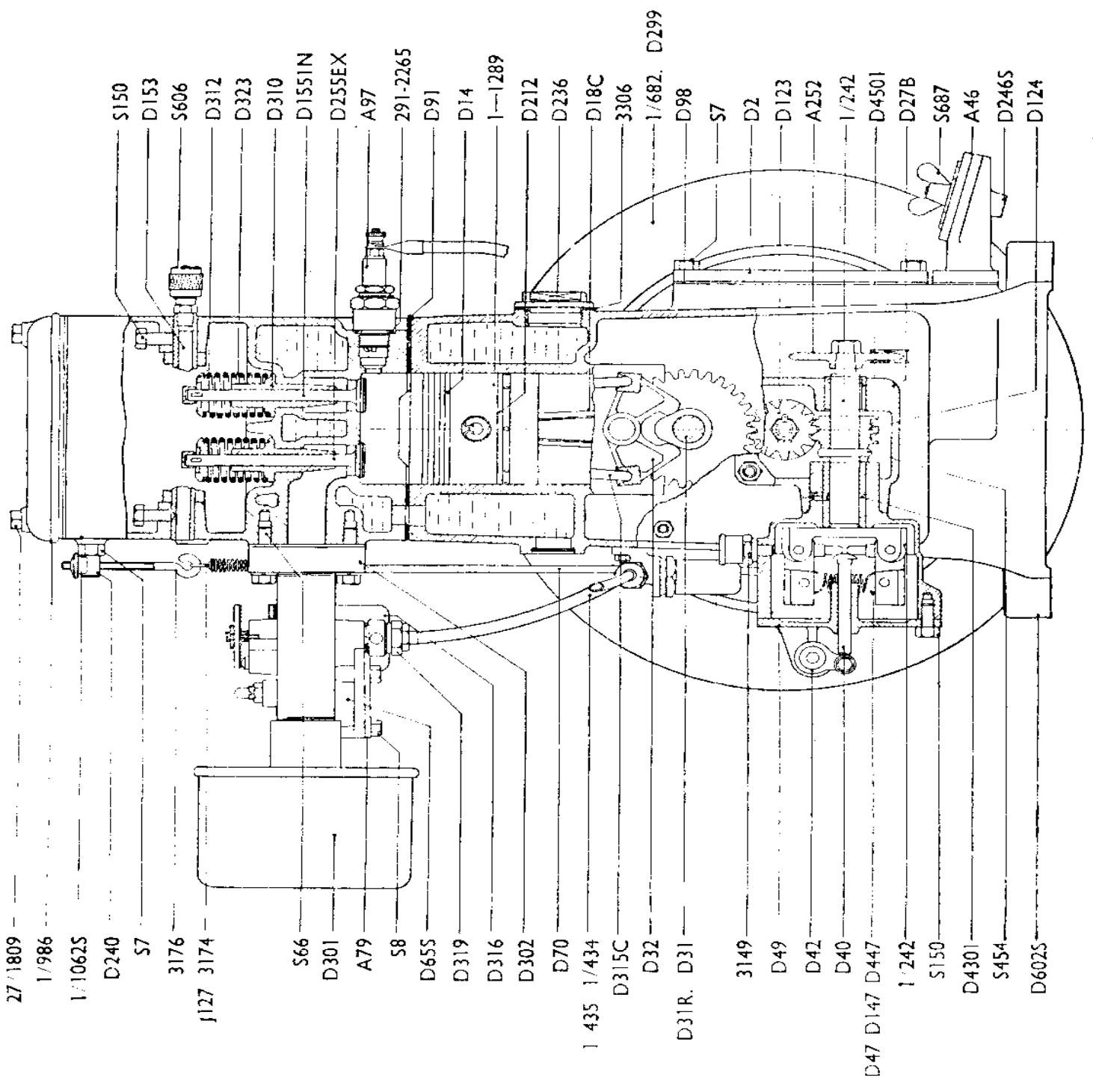


PLATE 3

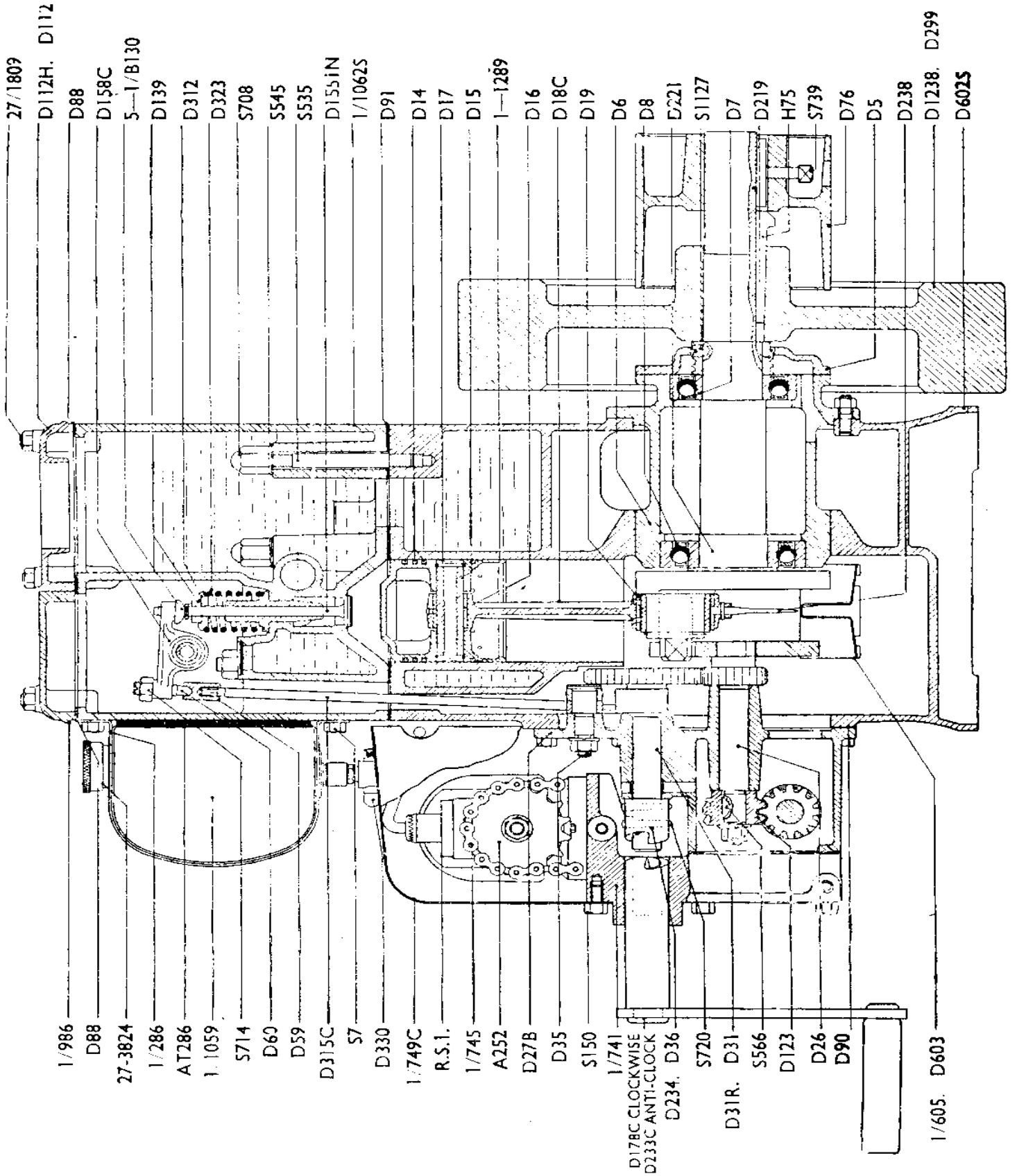
| | Order Part No. | No. | | Order Part No. | No. |
|---|----------------|-----|---|----------------|-----|
| CAM ROCKER LEVERS | | | | | |
| Assembly complete | D32c | 1 | Oil Splash Guard Bolt (Case Door Side) | S1117 | 1 |
| Inlet Rocker Lever | D22 | 1 | Clamp | 1/1246 | 1 |
| Exhaust | D32 | 1 | Plate | D604 | 1 |
| Spindle for | D35 | 1 | Crankcase Door | D2 | 1 |
| Spring Washer for Spindle | S393 | 1 | Joint | D98 | 1 |
| Nut for Spindle | S6 | 1 | Nut | S7 | 4 |
| | | | Oil Drain Plug | S469 | 1 |
| CRANKSHAFT (Comprising Shaft with Starting Clutch) | | | | | |
| Assembly complete for R.H. Starting Engines | D31c | 1 | Oil Filler with Stud for Petrol Engines | D246D | 1 |
| L.H. | D31Rc | 1 | " " " Paraffin | D246K | 1 |
| Camshaft bare | D31 | 1 | Stud for Petrol Engines | S217 | 1 |
| Starting Clutch for R.H. Starting Engines | D36 | 1 | Paraffin | S217 | 1 |
| L.H. | D234 | 1 | Joint | D247 | 1 |
| Taper Pin (No. 3) for Starting Clutch | S720 | 1 | Nut | S7 | 2 |
| " (No. 1) | S454 | 1 | Lid | A46 | 1 |
| Reamer for No. 1 Taper Pin | S751 | 1 | Wing Nut | S687 | 1 |
| No. 3 | S753 | 1 | Crankcase Drain Tap for water | D/610 | 1 |
| | | | Joint Washer for Drain Tap | 5197 | 1 |
| | | | Crankcase Water Drain Tap Adaptor Joint | 3306 | 1 |
| | | | Drain Tap Adaptor Plug | D236 | 1 |
| | | | Frost Plate | S161 | 1 |
| CONNECTING ROD | | | | | |
| Connecting Rod complete comprising | D18c | 1 | CRANKSHAFT | | |
| Bush (small end) specially drilled and reamed for spares | D16 | 1 | Crankshaft with Sleeve D33, Split Ring D30 on Crank Pin | D221 | 1 |
| " (big end) | D19 | 1 | Crankshaft for 1 k.w. plant with Sleeve D33 Split Ring D30 on Crank Pin | D483 | 1 |
| Dipper (long pattern) | D238 | 1 | Oil Thrower Ring | D219 | 1 |
| | | | " " Spring Ring | D220 | 1 |
| CRANKCASE | | | | | |
| Crankcase with Studs, Oil Splash Guard and Oil Filler | D602c | 1 | " " Screw | S1127 | 1 |
| Crankcase with Studs (Std.) | D602s | 1 | Ball Bearing, flywheel end (small) | D7 | 1 |
| Stud for Timing Case | 27/1961 | 8 | " " crank pin end (large) | D8 | 1 |
| " Main Bearing Housing | S37 | 5 | Housing | D6 | 1 |
| " Cylinder Head (long) | S529 | 2 | Paper Joint | D87 | 1 |
| " " (short) | S535 | 3 | Nut | S7 | 5 |
| " Inspection Door | S37 | 4 | End Cover | D5 | 1 |
| " Oil Filler | S37 | 2 | Set Pin | S332 | 4 |
| Oil Splash Guard (Clockwise) | D603 | 1 | Driving Pin for Trailing Shaft | D28 | 1 |
| " (Anti-clockwise) | D605 | 1 | Crankshaft Sleeve | D33 | 1 |
| " Bolt (Drain Plug Side) | S225 | 2 | Split Ring | D30 | 1 |

PLATE 3 (Continued) FOR ILLUSTRATION OF THESE PARTS REFER TO PAGE 11

| | Order Part No. | No. |
|--|----------------|-----|
| FLYWHEEL | | |
| Flywheel 12" Dia. 2 H.P. Hopper or Tank Cooled | D299 | 1 |
| " " " Radiator Cooled | F176 | 1 |
| " " 13" Dia. 1½ H.P. Hopper or Tank Cooled | D1238 | 1 |
| " " 14" Dia. 1½ H.P. with Coupling | 1/682 | 1 |
| Facings (for Direct Coupled Plant) and Radiator Cooled | | |
| Flywheel Key | H75 | 1 |
| GUDGEON PIN | | |
| Gudgeon Pin | D15 | 1 |
| " " Retaining Spring | D17 | 2 |
| PISTON | | |
| Piston, D type only (Standard) | 1/1289 | 1 |
| " DK " (Standard) | 1/1290 | 1 |
| " Ring (Standard) | D14 | 3 |
| " Scraper Ring (Standard) | D212 | 1 |
| PULLEY | | |
| Pulley 3½" dia. x 5" Face | D71 | 1 |
| " 4" dia. x 5" " " | D72 | 1 |
| " 5" dia. x 4½" " Standard Size | D76 | 1 |
| " 6" dia. x 4½" Face | D73 | 1 |
| " 7" dia. x 6" " " | D175 | 1 |
| " 8" dia. x 5" " " | D75 | 1 |
| Set Screw for Pulleys, 5" dia. and over | S739 | 1 |
| Grub Screw for 3½" and 4" dia. Pulleys only | 10-8-88 | 1 |
| Pulley Key | S353 | 1 |
| TIMING CASE | | |
| Complete (Comprising D31 Camshaft; D32C Cam, Rocker Assembly, D267 Governor Complete 700 r.p.m. or D268 Governor Complete 1000 r.p.m., Magneto and Starting Handle Bracket 1/741, D26C Trailing Shaft Complete) — For 500 R.P.M. | 1/782 | 1 |
| do. For 700 R.P.M. | 1/761/5 | 1 |
| do. For 1000 R.P.M. | 1/762/5 | 1 |
| Timing Case, with Studs and Bush | D27B | 1 |
| " " Joint | D90 | 1 |
| Bush for Timing Case (Magneto Side) | 1/4501 | 1 |
| Oiling Plug | 5-1/B6 | 1 |
| " " Joint | 5197 | 1 |
| Plug for Oil Drain Hole | D52 | 1 |
| Stud for Starting Handle Bracket | 27/1583 | 4 |
| TRAILING SHAFT | | |
| Trailing Shaft complete with Spiral Gear | D26c | 1 |
| " " (with Drive Plate shrunk on only) | D26 | 1 |
| Spiral Gear | D123 | 1 |
| Key for Spiral Gear (Woodruff No. 6) | S566 | 1 |
| Washer | S184 | 1 |
| Slotted Nut | S241 | 1 |
| Split Pin for Nut | S236 | 1 |



- 27/1809
- 1/986
- 1/1062S
- D240
- S7
- 3176
- J127 3174
- S66
- D301
- A79
- S8
- D655
- D319
- D316
- D302
- D70
- 1 435 1/434
- D315C
- D32
- D31R. D31
- 3149
- D49
- D42
- D40
- D47 D147 D447
- 1 242
- S150
- D4301
- S454
- D602S
- S150
- D153
- S606
- D312
- D323
- D310
- D1551N
- D255EX
- A97
- 291-2265
- D91
- D14
- 1-1289
- D212
- D236
- D18C
- 3306
- 1/682. D299
- D98
- S7
- D2
- D123
- A252
- 1/242
- D4501
- D27B
- S687
- A46
- D2465
- D124



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