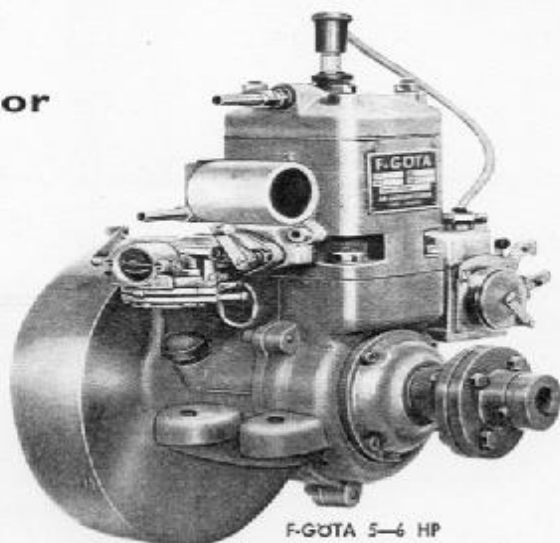


Gasoline or  
Kerosene

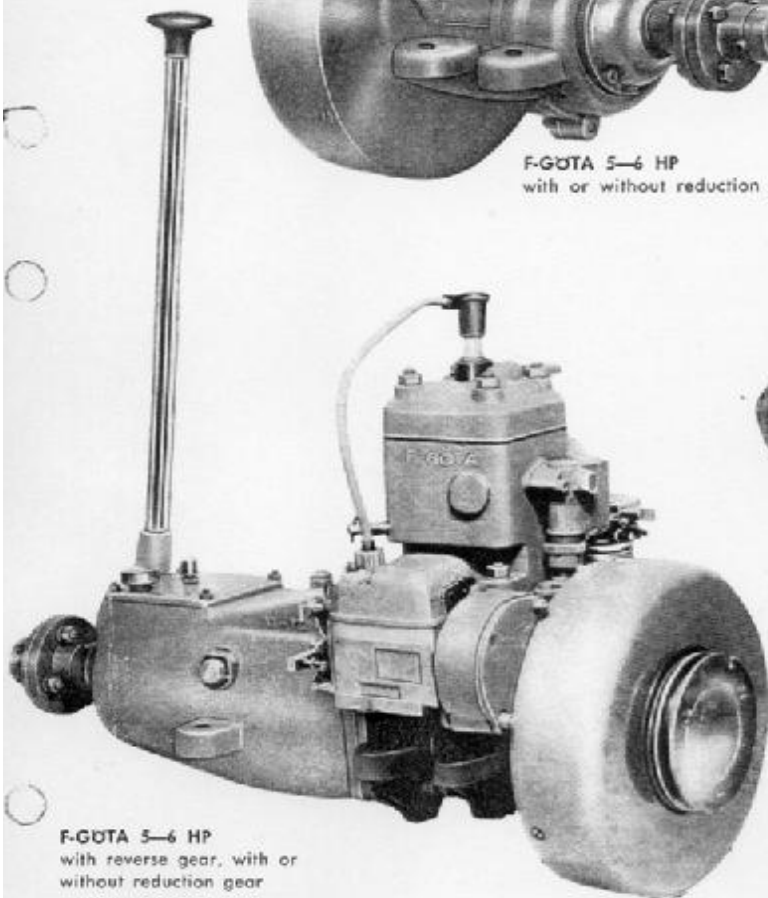
Swedish Marine 2-stroke Engine

**F-GÖTA**

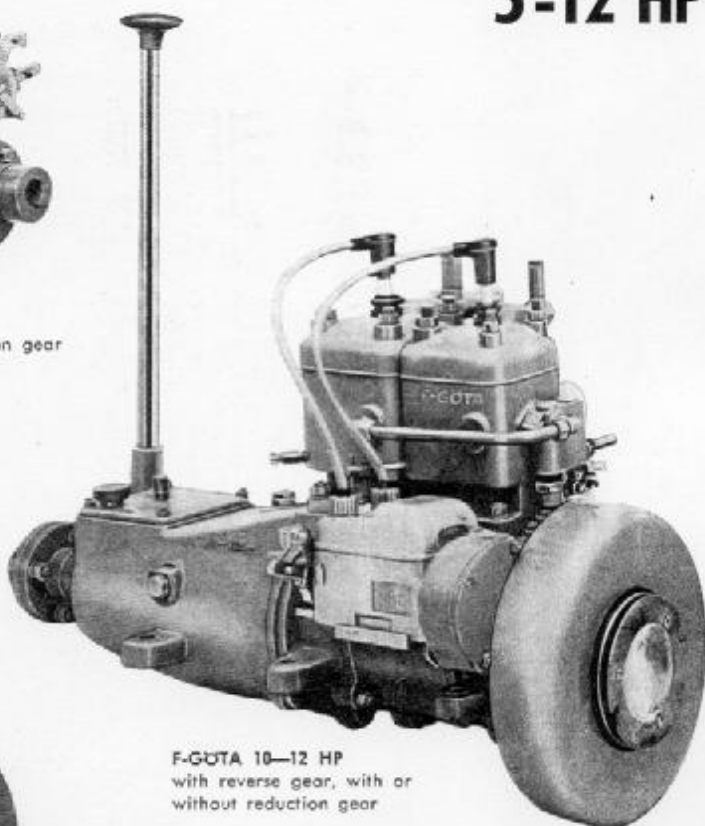
**5-12 HP**



F-GÖTA 5-6 HP  
with or without reduction gear



F-GÖTA 5-6 HP  
with reverse gear, with or  
without reduction gear



F-GÖTA 10-12 HP  
with reverse gear, with or  
without reduction gear

| Motor                                       | F-GÖTA               |      |      |      |      |      |      |      |      |      |      |      |
|---|----------------------|------|------|------|------|------|------|------|------|------|------|------|
| Type*)                                      | 5                    | 5B   | 5V   | 6R   | 6BR  | 6VR  | 10   | 10B  | 10V  | 12R  | 12BR | 12VR |
| HP  | 5                    | 5    | 5    | 6    | 6    | 6    | 10   | 10   | 10   | 12   | 12   | 12   |
| Number of cylinders                         | 1                    | 1    | 1    | 1    | 1    | 1    | 2    | 2    | 2    | 2    | 2    | 2    |
| Cylinder volume cm <sup>3</sup>             | 270                  | 270  | 270  | 270  | 270  | 270  | 540  | 540  | 540  | 540  | 540  | 540  |
| Cylinder stroke mm                          | 70                   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Cylinder diameter mm                        | 70                   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Motor r.p.m.                                | 2000                 | 2000 | 2000 | 2500 | 2500 | 2500 | 2000 | 2000 | 2000 | 2500 | 2500 | 2500 |
| Propeller r.p.m.                            | 2000                 | 2000 | 2000 | 830  | 830  | 830  | 2000 | 2000 | 2000 | 630  | 630  | 630  |
| Net weight, motor kg ca:                    | 40                   | 60   | 40   | 50   | 65   | 50   | 60   | 80   | 60   | 70   | 85   | 70   |
| Gross weight, motor kg ca:                  | 70                   | 100  | 70   | 80   | 100  | 80   | 100  | 125  | 100  | 110  | 125  | 110  |
| Net weight, equipment kg ca:                | 9                    | 9    | 21   | 10   | 10   | 22   | 12   | 12   | 28   | 13   | 13   | 29   |
| Gross weight, equipment kg ca:              | 21                   | 21   | 33   | 22   | 22   | 34   | 24   | 24   | 40   | 25   | 25   | 41   |
| Shipping box, motor, m <sup>3</sup> ca:     | 0,20                 | 0,25 | 0,20 | 0,20 | 0,25 | 0,20 | 0,25 | 0,30 | 0,25 | 0,25 | 0,30 | 0,25 |
| Shipping box, equipment, m <sup>3</sup> ca: | 0,05                 | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 |
| Fuel consumption lit/h ca:                  | 2,1                  | 2,1  | 2,1  | 2,6  | 2,6  | 2,6  | 4,3  | 4,3  | 4,3  | 5,2  | 5,2  | 5,2  |
| Fuel  | Gasoline or kerosene |      |      |      |      |      |      |      |      |      |      |      |

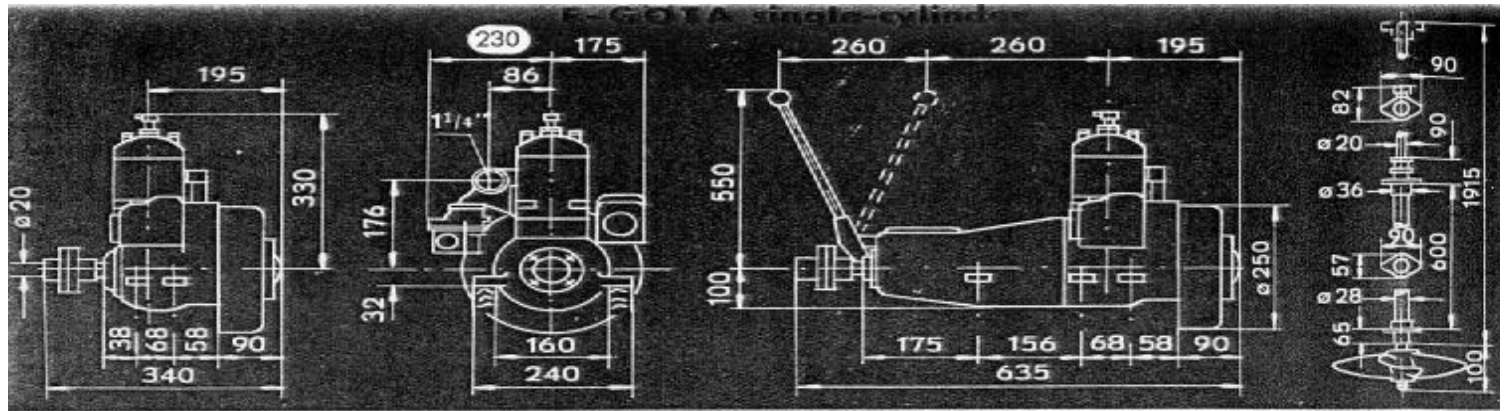
\*) Designation: B = Reverse gear, V = Reversible propeller, R = Reduction gear, E = Electric equipment  
1 kg = 2,205 lbs, 1 m<sup>3</sup> = 35,3147 cubic foot, 1 lit. = 0,22 Imp. gallon, 25,4 mm = 1"

**AB GÖTAMOTORER - OSBY**

Tel. 100 25

SWEDEN

Tel. 112 05



## SPECIFICATIONS

**Cylinder block** with detachable cylinder head is made of special finegrained, alloyed cast iron possessing high tensile strength and resistance to wear. The cylinder bore is accurately ground and water and gas jackets of ample size. Reverse lateral flow provides increased efficiency and reduced fuel consumption.

**Crankshaft** is forged of alloyed steel, with accurately ground journals, and is statically and dynamically balanced.

**Main bearings** consist of amply dimensioned SKF ball bearings.

**Piston** is of aluminium alloy with domed top and provided with three compression rings.

**Connecting rod** of drop forged H section steel has the big end provided with an accurately ground race for double SKF needle bearings. Piston pin bushing is of bronze.

**Piston pin** is of alloy steel hardened and ground and securely fitted to the piston.

**Exhaust and intake manifold** is cast in one piece. Pre-heating the fuel-air mixture provides complete combustion of the fuel, whether petrol or kerosene.

**Water pump** is of the plunger type and of an efficient and wear resistant design. It is cam-operated, runs in oil and requires no maintenance.

The carburettor of the brand Tillotson is a diaphragm type. **Not dropping that eliminates the danger of fire.**

**Ignition** is by magneto, gear operated from the crankshaft, with the middle gear wheel made of Ferobestos. The silent drive runs in oil, the level of which is measured by a stick. The spark plug is protected by a splash guard.

**Lubrication** of the motor is by oil mixed with the fuel.

**Sealing** of the main bearings and pump plunger is obtained by self-adjusting spring loaded rings. Flat surfaces are provided with high grade oil resistant gaskets. Cylinder top gasket of Klingerit.

**Reverse gear** is enclosed in a robust casing and provided with SKF ball bearings running in oil for silent operation and insignificant wear. The oil level is measured by a stick.

**Starting** is accomplished by cord, crank handle or by electric motor. The engine starts easily hot or cold.

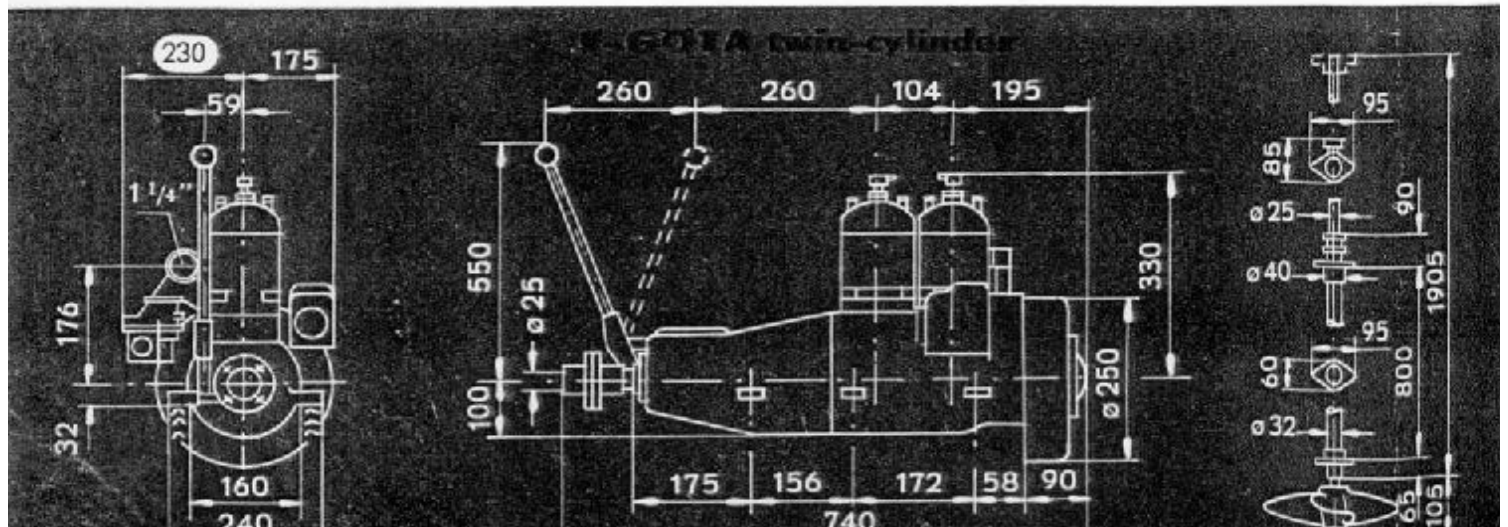
**Warranty.** Each engine is thoroughly tested prior to delivery. It is sold with a warranty against defective material and workmanship for a period of one year.

**Propeller equipment**, consisting of propeller shaft and stern bush of brass and of propeller and propeller bearing of bronze. Bearing lining made of Ferobestos. The equipment can also be supplied with reversible blades. Length of propeller shaft 2.0 Metres (6' 6.3/4"), Standard length of stern bush 0.8 M. (2' 7 1/2").

**Assembly fittings** consisting of oil fuel tank for petrol and paraffin, cock, cock mountings and fuel flexible tube. Cooling water equipment consisting of a filter, sea cock with mountings and hose for sea inlet and exhaust.

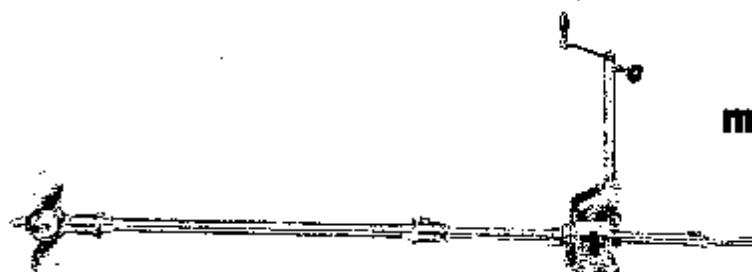
**Electrical equipment** supplied on special order includes motor-generator, instrument panel, wiring accessories but less battery and cables.

Data and illustrations are subject to modifications



# SCREW PROPELLER EQUIPMENT

with  
movable blades  
for



## F-GÖTA 5-18

### SPECIFICATIONS

Propellershaft, Shifting collar, Propeller shaft stem casing, Thrust bearing casing, Bearing flanges, Clamp collars and Stuffing box are made of first class brass.

Manouvring-housing made of cast steel.

Manouvring nut made of brass.

Manouvring shaft made of stainless steel, Locking handwheel of Bakelite, Handle of Bakelite.

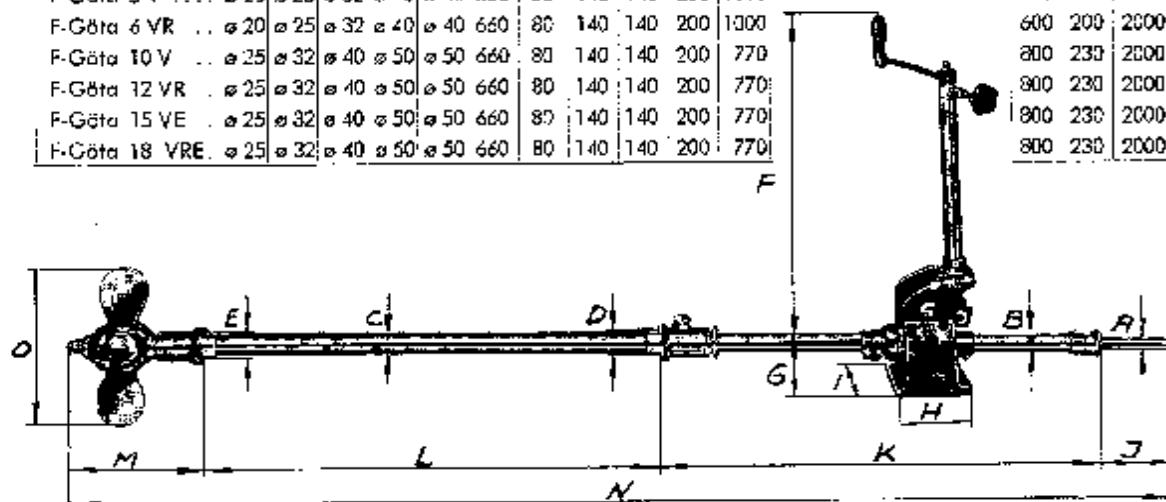
Propeller bearing casing, Propeller hub housing and propeller blades made of bronze.

The bearing cups are made of ferobestos.

The propellerthrust is caught by a SKF- thrust bearing housed in the manouvring screw.

The propellerblades can be placed into the position most suitable when sailing.

| Type of motor | A  | B  | C  | D  | E  | F   | G  | H   | I   | J   | K    | L   | M   | N    | ø   |
|---------------|----|----|----|----|----|-----|----|-----|-----|-----|------|-----|-----|------|-----|
| F-Göta 5 V    | 20 | 25 | 32 | 40 | 40 | 660 | 80 | 140 | 140 | 200 | 1000 | 600 | 200 | 2000 | 300 |
| F-Göta 6 VR   | 20 | 25 | 32 | 40 | 40 | 660 | 80 | 140 | 140 | 200 | 1000 | 600 | 200 | 2000 | 400 |
| F-Göta 10 V   | 25 | 32 | 40 | 50 | 50 | 660 | 80 | 140 | 140 | 200 | 770  | 800 | 230 | 2000 | 320 |
| F-Göta 12 VR  | 25 | 32 | 40 | 50 | 50 | 660 | 80 | 140 | 140 | 200 | 770  | 800 | 230 | 2000 | 450 |
| F-Göta 15 VE  | 25 | 32 | 40 | 50 | 50 | 660 | 80 | 140 | 140 | 200 | 770  | 800 | 230 | 2000 | 320 |
| F-Göta 18 VRE | 25 | 32 | 40 | 50 | 50 | 660 | 80 | 140 | 140 | 200 | 770  | 800 | 230 | 2000 | 450 |



Notes and pictures are valid with the reservations for amendments of design.

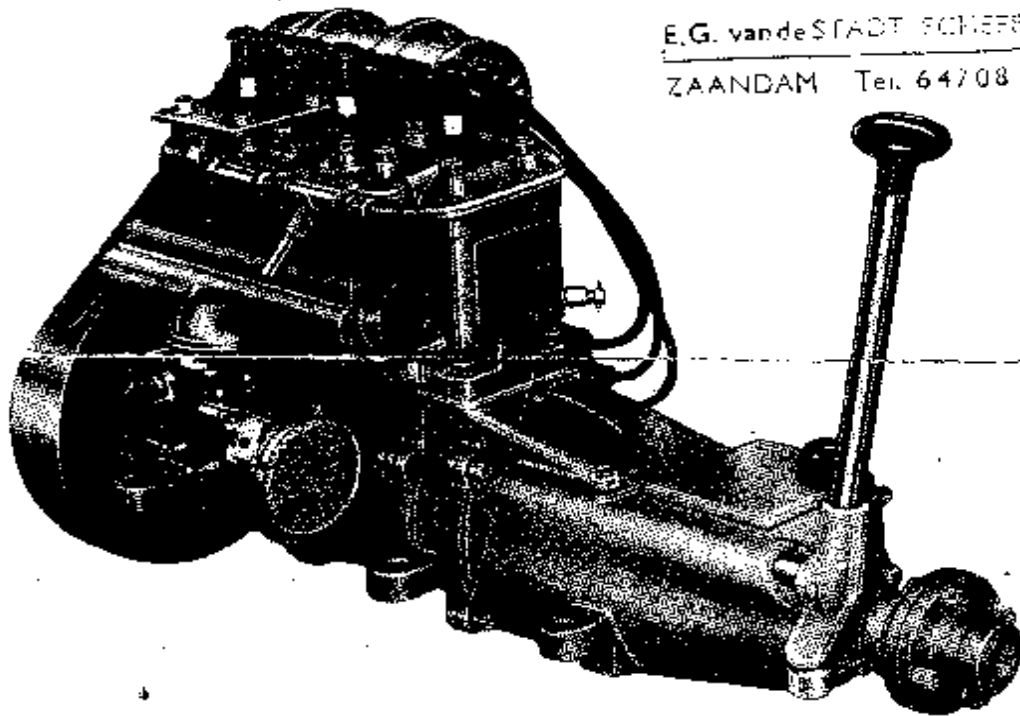
**AB GÖTAMOTORER - OSBY**

TELEPHONE OSBY 100 25, 112 05 — WIREADDRESS: "GÖTAMOTORER SWEDEN"

# FÄRE-GÖTA

**GASOLINE or KEROSENE**

E.G. van de STADT SCHEFFSWERF N.V.  
ZAANDAM Tel. 64708 HOLLAND



## TECHNICAL DATA

|                    |                     |
|--------------------|---------------------|
| No. of cylinders   | 3                   |
| Type               | 2-stroke            |
| Bore               | 70 mm               |
| Stroke             | 70 mm               |
| Cylinder volume    | 876 cm <sup>3</sup> |
| Effect at 2000 r/m | 15 HP               |
| Effect at 2500 r/m | 18 HP               |
| Fuel consumption   | 6 l/h               |

Easy to operate.

Electrical starter and generator for instantaneous starting and for light.

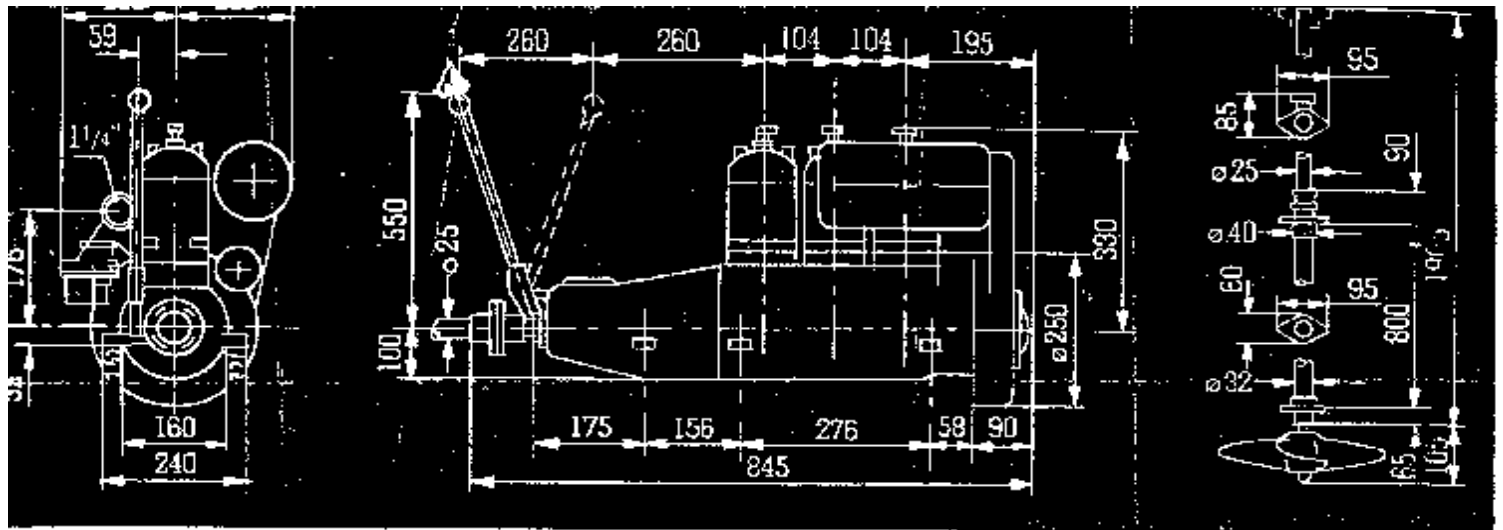
Built according to the most up to date principles.

Reliable in running.

Remarkably low weight and volume.



SWEDEN



Measure in mm.: 1" = 25,4 mm.

## SPECIFICATION

The cylinder blocks have detachable covers and are constructed of special alloy, fine-grained cast iron offering great resistance to wear.

The cylinder walls are carefully ground, and cooling — and gas ports are of ample size. Reversed cross scavenging gives increased power and reduced fuel consumption.

The crank shaft is constructed of special steel with ground pins and is well balanced.

Connecting rods are of drop forged steel of H-section and provided with tempered and carefully ground bearing surfaces for their double precision needle bearings of SKF manufacture. Top end bearing of special bronze.

Main bearings have robust SKF ball bearings.

Pistons are of light metal with convex tops and have three compression rings.

Gudgeon pins are manufactured of tempered chrome nickel steel and carefully ground, being secured in the pistons by means of Saeager locking devices.

The exhaust- and inlet casing is cast in one unit, and preheating of the fuel-air mixture gives complete combustion.

The cooling water pump is an effective and robust cog wheel pump, one wheel being constructed of bronze and the other of Ferobestos, which makes for silent running. The pump is driven by a gear which runs in an oil bath. Oil level is determined by a sounding rod.

Ignition by Bosch 12 V equipment

The engine is lubricated by means of oil added to the fuel.

The packing of all rotating parts is by Zimmer rings and of plane surfaces by oil packing of best quality. Cylinder top gasket of Klingerit.

The reversing gear is totally enclosed and of robust construction with SKF ball bearings. It works in an oil bath giving very little wear and silent running. Oil level is determined by a sounding rod.

An effective silencer is fitted to the motor.

Electrical equipment is a standard fitting for all 3-cylinder motors. The equipment consists of a Bosch 12 V starter-generator with relay and starting switches, but exclusive of battery and cables.

A switchboard is included and consists of a board with 3 controls and thermometer.

Flame guard, also acting as an inlet damper is supplied to the motor.

Guarantee. Each motor is very carefully tested before delivery. 1 year's guarantee is given for defects of material or in manufacture.

### EXTRA OUTFIT

Propeller equipment, consisting of propeller shaft and stern bush of brass and of propeller and propeller bearing of bronze. Bearing lining made of Ferobestos. The equipment can also be delivered with reversible blades. Length of propeller shaft 2.0 Metres (6' 6.3/4"), Standard length of stern bush 0.9 M. (2' 7 1/2").

Assembly fittings consisting of oil fuel tank for petrol and paraffin, cock, cock mountings and fuel flexible tube. Cooling water equipment consisting of a filter, sea cock with mountings and hose for sea inlet and exhaust.

| Type x)                      | 15 B  | 15 V  | 18 BR | 18 VR |
|------------------------------|-------|-------|-------|-------|
| Output, BHP .....            | 15    | 15    | 18    | 18    |
| R.P.M.-engine .....          | 2000  | 2000  | 2500  | 2500  |
| R.P.M.-propeller .....       | 2000  | 2000  | 830   | 830   |
| Net weight, kos .....        | 137   | 146   | 143   | 153   |
| Gross weight, kos .....      | 189   | 193   | 195   | 200   |
| Volume, m <sup>3</sup> ..... | 0,342 | 0,322 | 0,342 | 0,327 |

x) B = reversing gear    V = propeller with reversible blades    R = reduction gear

Data and illustrations are subject to modifications

## Description of reverse gear for F-Gota

(The figures in paranthesis refer to the illustrated numbers of the spare part list, picture 10 & 11)

The reverse gear mechanism consists of a housing (176) together with a conical coupling, which in turn consists of a cone (184) and a bowl (186) for propulsion ahead, and a reversing coupling (199-205) for driving astern. The reversing coupling is housed in the front half of the conical coupling.

In the aft part of the housing an axial thrust bearing is placed together with an oilseal.

Movement ahead is accomplished by pushing the gear lever forward when the conical coupling engages.

Movement astern is accomplished by pulling the gear lever aft as far as possible and is fully engaged after weak resistance is felt.

The idling or neutral position of the gear lever lies between ahead and astern. The bowl and the cone inside the conical coupling are disengaged when idling by means of a compression spring (185).

For movement ahead the coupling ball (191) connected to the gear lever will move ahead, the three claws in their support (192) will grip and, in turn, force the aft part of the conical coupling, (the bowl), against the front half, (the clutch). These will rotate together and establish direct drive to the shaft.

If this coupling slips after having been used for a while, the claw support (192), after first having been released by unscrewing the locking (Allen) screw, must be turned slightly to the right (clockwise) and the locking screw then re-tightened, thus allowing the claws to obtain a tighter grip and a firmer coupling.

Movement astern is accomplished when the brake-band (187) firmly engages the aft half of the conical coupling, (the bowl), preventing it from turning and thus actuating the reverse movement. The gear lever is connected to the operating shaft (188) which by means of an oblique angled surface constricts the brake-lining. An adjusting (Allen) screw (237) on the upper part of the housing is provided for adjustment to the brake-lining. The adjustment should be carried out when gear is engaged in astern. The screw visible on the top of the housing (232) is a lock screw for the brake-lining and must not be used for adjustment. The adjustment screw (234) on the lower part of the housing is for adjustment of the brake-lining. This must not be touched before the upper adjustment screw has been screwed in to its limit. All adjustments can be performed when the inspections cover (177) has been removed. In no case should the inclination of the motor exceed  $15^{\circ}$ , and within this limit the level of lubrication oil must be high enough to cover the cogwheels of the equalizing gear at the fore end of the mechanism. The graduation of the dip-stick is based on the motor being level.

Complete dismantling of the reverse gear is accomplished in the following manner:

The flange (5) is removed from the shaft.

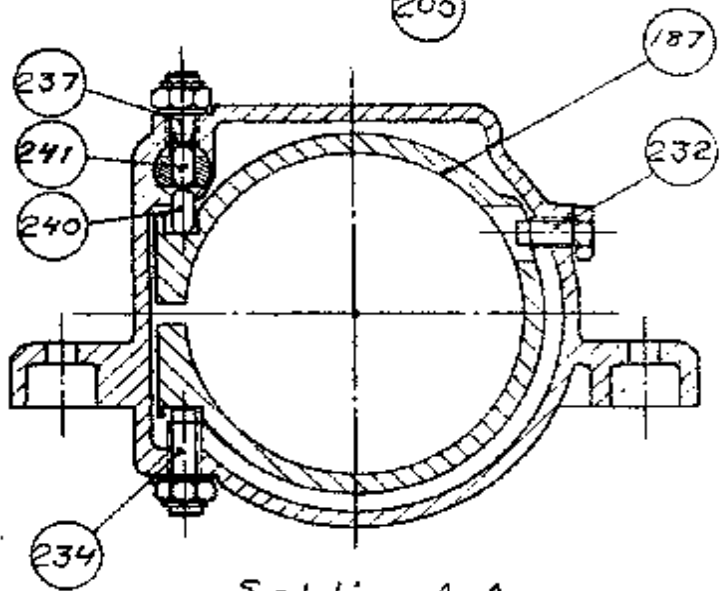
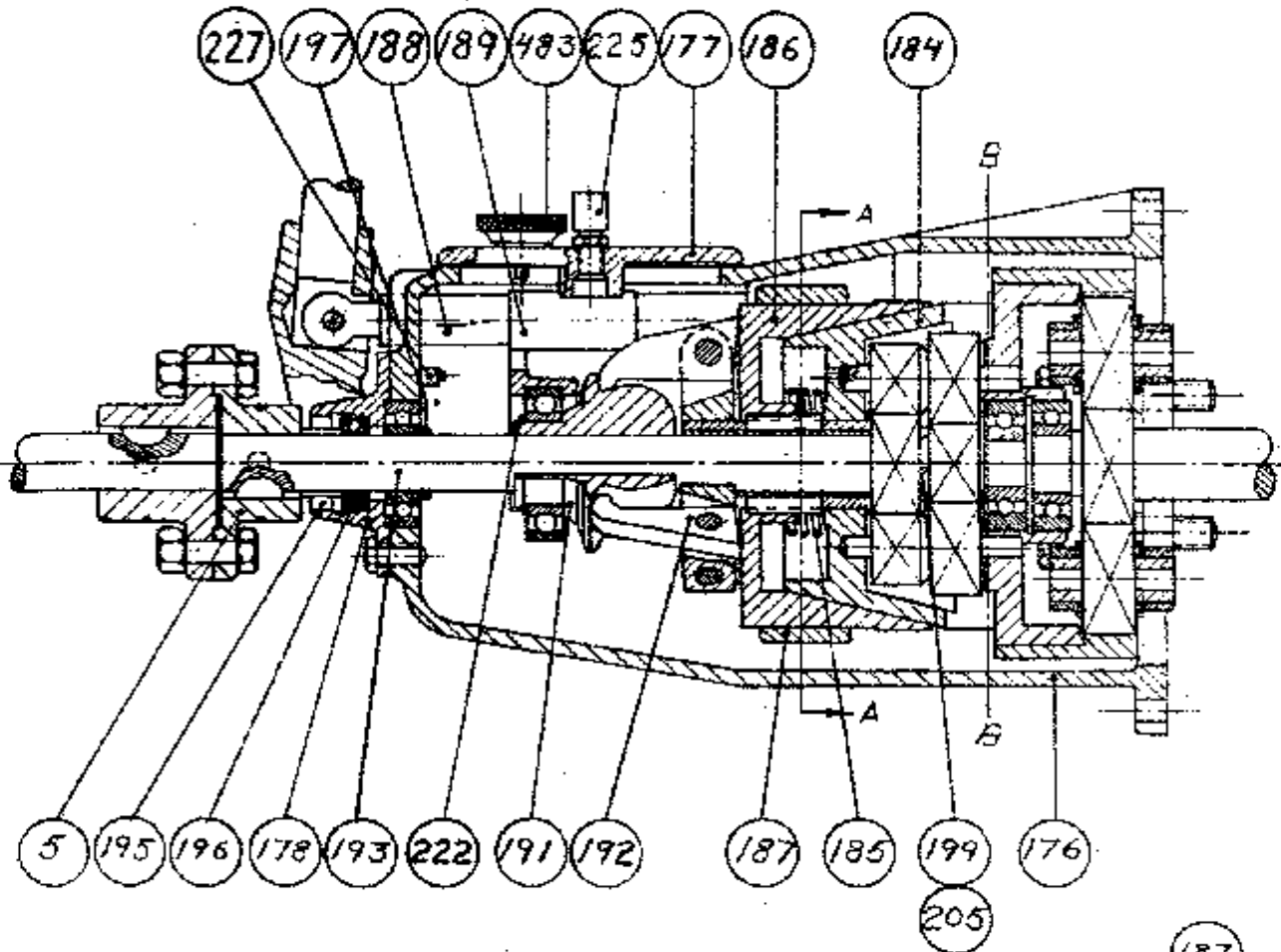
The end-cover (178) is removed by means of a special tool.

Thereafter dismount the coupling link (189) entirely.

After removing the six connecting bolts, the housing of the reverse gear can be taken off completely.







Sektion A-A

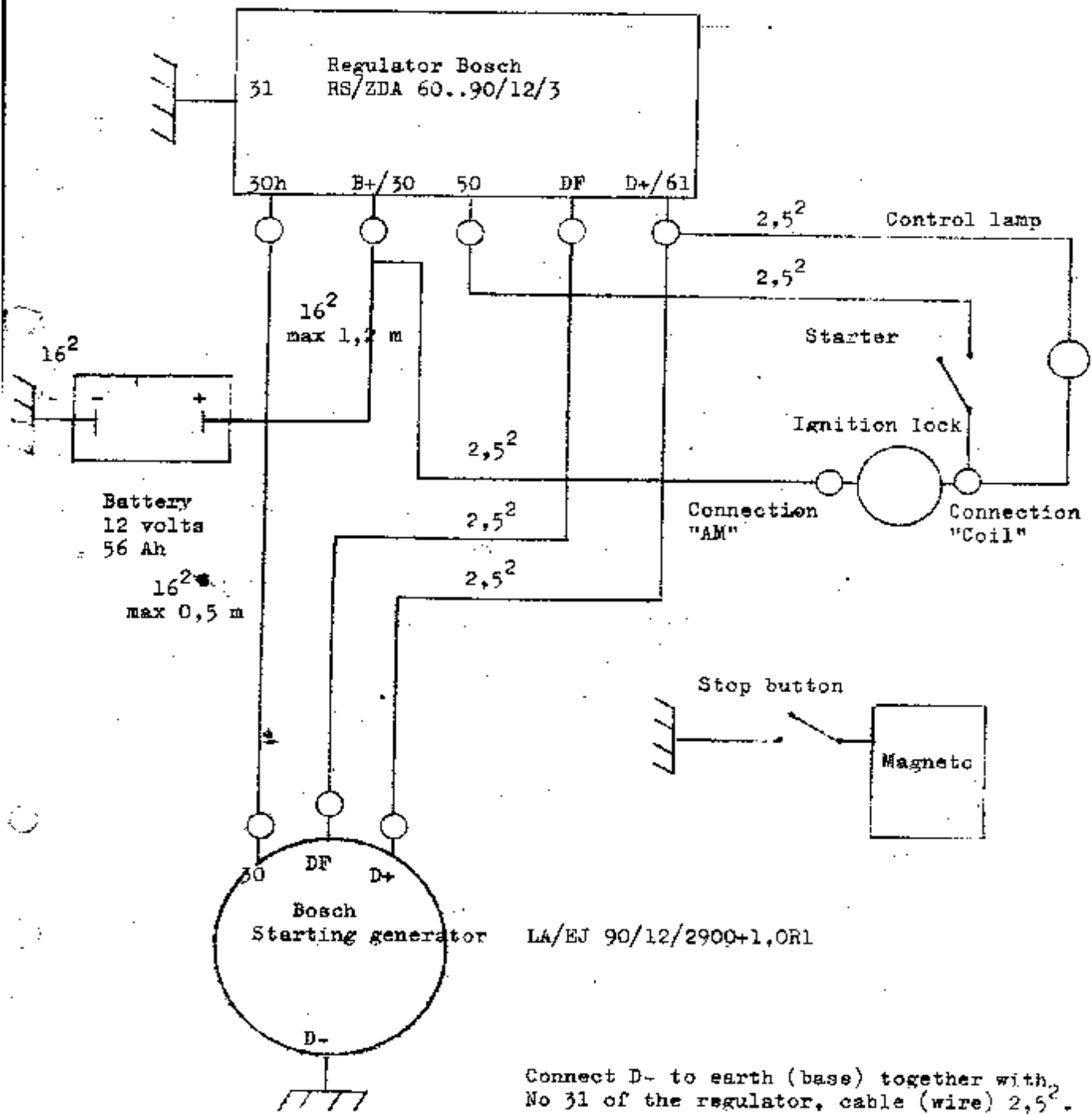
- 483 Dipatick
- 241 Set pin short
- 240 Set pin long
- 237 Adjustment screw
- 234 Adjustment screw
- 232 Locking screw
- 227 Set screw
- 225 Air valve
- 222 Clamp ring
- 205 Details for reversing gear
- 199 Details for reversing gear
- 197 Clampring
- 196 Axial bearing (51104)
- 195 Jointing ring
- 193 Shaft for reversing gear
- 192 Claw holder
- 191 Clutch ball
- 189 Cluth coupling
- 188 Operating axle
- 187 Brake linning
- 186 Bowl
- 185 Spring
- 184 Cone
- 178 End cover
- 177 Top cover
- 176 Cap for reversing gear
- 5 Coupling flange

| Nr   | Benämning | Ant.  | Material      | Modell nr |
|--|-----------|-------|---------------|-----------|
| Skala  |           | Datum |               | Kontr.    |
| 1:2,5  |           | Ritad | 18-6-63       | L. W.     |
| <b>A.B. GÖTAMOTORER - OSBY</b>                   |           |       |               |           |
| REVERSE GEAR WITH REDUCTIONS-<br>GEAR FOR F-GÖTA |           |       | <b>A4-912</b> |           |



CONNECTION DIAGRAM FOR P-GÖTA 5 - 12 HP, BOSCH 12 VOLTS.

ATTENTION! Connect 31 together with D- of the starting generator to earth (base), 2,5<sup>2</sup> cable (wire).



Connect D- to earth (base) together with No 31 of the regulator, cable (wire) 2,5<sup>2</sup>.

ATTENTION! For DF use always forked cableclips, for other terminals closed clips.

|                        |
|------------------------|
| AB GÖTAMOTORER<br>OSBY |
| A4 - 910               |

Connecting diagram for Bosche electric equipment  
on marinmotor F-Göta.

The regulator should not be mounted too close to the motor, so that risk for its heating up appears. When too high a regulator temperature the tension of loading becomes altered with the result of unsatisfactory loading of the battery.

The regulator has to be mounted in such a manner, that it is well protected against splashing water. The mounting is to be made vertically with the terminals at the bottom end. Vibrations occurring in the support have to be repressed as far as possible.

Connection of the current has to take place by means of a separate cable (wire),  $2,5 \text{ mm}^2$ , between the terminals 31 of the regulator and the D-terminal of the starting generator.

The connecting cables (wires) ought not to be shifted as heavy damage can occur in the regulator and starting generator. For DF use forked cable clips and for the other terminals closed clips. If the length of the starting cables (wires) exceeds mentioned max. length, choose a cable with the next bigger size of area.

The V-belts have to be controlled by even intervals concerning the tension of the belts. When pressing the thumb on the belts they have to slack within 10 mm ( $3/8''$ ). Too high a stretching pressure on the belts might cause damage on the bearings of the starting generator, and the contrary might cause starting difficulties and unsatisfactory loading. The capacity of the battery might not exceed 90 watts. Loads lasting very short (i.e. el.horn) exceeding this maximum of load may be granted.

# SEM

## MAGNETOS

Type E-2R  
Type E-2L  
Type E-2R35\*

for twin cyl. 2- and 4-stroke engines

\* For Fåre-Göta engines model 10—12



### DESCRIPTION

**SEM Magnetos type E-2R(L) and E-2R35** are of a design employing the rotating magnet principle. The permanent magnet of Alnico-steel is diecast in a single unit with the laminated pole pieces and the spindles to form the magneto rotor. The less robust parts, such as the coil and condenser, are stationary. The contact breaker, which does not rotate, is of the pivotal type and entirely enclosed in a metal casing. The magnetos are designed for service under the most arduous conditions. The entire units are enclosed within a dust- and moisture-proof metal frame. The coil is effectively insulated by a method which protects against deterioration and power leakage under adverse running conditions.

### INSPECTION AND MAINTENANCE

When faulty ignition occurs, the high tension cables and sparking plugs should first be examined. If the insulation shows signs of deterioration or cracking, the cables must be exchanged. For this purpose the main cover of the magneto housing need not be removed. Unscrew the nut on the cable outlet and remove the cable. The new cable should not be bared but must be cut off flush to the required length. The rubber bush is pulled onto the cable for a distance of at least 40 mm from its end and the cable is pushed well down into the bottom of the insulator. The nut on the cable outlet must then be screwed home.

The plug electrodes burn away slightly in service whereby the gap length gradually increases. Examine and clean them from time to time, adjusting them to the right setting if necessary. The distance should normally be 0,4 mm.

### ADJUSTMENT OF BREAKER POINTS

The contact breaker should be inspected from time to time. It is important that the contacts should be kept clean. If they are burned or blackened, they may be cleaned with a very fine car-

### DATA

Cylinders: two

Timing range: 20°

Weight: 2.1 kgs

Drawing No. 17200 for E-2R(L)  
No. 17218 for E-2R35

In the type designation »R» indicates right hand drive and »L» left hand drive.



borundum stone or emery cloth. Care must be taken that all particles of dirt or metal dust are wiped away. This can be done with a cloth moistened with petrol.

The gap between the contacts, when fully opened, should be 0,4 mm. The distance can be checked by means of the gauge on the adjusting spanner. If adjustment is necessary, proceed as follows. Slack off the screw A (See fig.) slightly. Insert the screw driver of the adjusting spanner in the slot C. Turning the spanner to the left decreases, and turning to the right increases, the distance between the contacts. When the gap is set to the thickness of the gauge tighten the screw A.

If the cam is removed from the shaft for any reason, make sure that it is replaced in its original position. The end surfaces of the cam are marked with an R and an L respectively. On magnetos for a right-hand drive the letter R must be turned towards the breaker cover. On magnetos for a left-hand drive the letter L should have the same position.

If the moving contact D is to be replaced, unscrew the nut F with the adjusting spanner and remove the split pin G. Fill the groove of the contact breaker pivot with ball bearing grease and install the new moving contact. If the felt lubricator H is dry, add a few drops of thin machine oil onto the felt. When replacing the contact breaker housing, fill its lubricating groove with ball bearing grease before assembly.

### REPLACEMENT OF CONDENSER

When replacing the condenser remove the two retaining screws. When reassembling ensure that the cable connections from the contact breaker and the wound core are replaced in their original positions. The eyelet from the winding and the nickel-plated cable terminal from the contact breaker are placed under one of the retaining screws. The brass cable terminal from the contact breaker and the eyelets from the ignition coil and condenser are placed under the retaining screw for the shorting spring clip.

### CLEANING OF HIGH TENSION MOULDING AND SLIP RING

The high tension moulding should be removed about once a year and cleaned. Wipe off any deposits and polish with a fine dry cloth. See that the pick up brushes move freely in their holders. Before replacing the high tension moulding, clean the slip ring by inserting a soft cloth and at the same time slowly turning the engine. When reassembling ensure that the cable connections from the wound core, the condenser and the contact breaker are made according to the instructions for replacement of the condenser.

**AKTIEBOLAGET SVENSKA ELEKTROMAGNETER • ÅMÅL • SWEDEN**

TELEPHONE: 120 10

Telegraphic address: MAGNETER

**SEM**  
SERVICE-  
LIST  
ME — 201



## MAGNETOS type E-2R(L)

for twin cyl. 2- and 4-stroke engines  
and type E-2R35 for Färe-Göta engines model 10—12



### SPARE PARTS LIST

| Fig. No. | Order No. | Fig. No. | Order No. |
|----------|-----------|----------|-----------|
| 1        | 17221     | 17       | 17246     |
| —        | 17224     | 18       | 17080     |
| 2        | 17030     | 19       | 17081     |
| 3        | 17231     | 20       | 17082     |
| 4        | 17239     | 21       | 17088     |
| —        | 17059     | —        | 17086     |
| —        | 17051     | 22       | 17083     |
| 5        | 1761      | 23       | 17250     |
| 6        | 17052     | 24       | 17272     |
| —        | 1704      | 25       | 17256     |
| —        | 1750      | 26       | 17270     |
| —        | 17240     | —        | 2638      |
| 7        | 17236     | 27       | 1954      |
| —        | 1760      | 28       | 17268     |
| —        | 17039     | —        | 2720      |
| 8        | 17038     | —        | 1766      |
| 9        | 1597      | —        | 2463      |
| —        | 17053     | 29       | 17228     |
| —        | 10110     | —        | 17279     |
| 10       | 17061     | —        | 17148     |
| 11       | 17245     | 30       | 17148     |
| —        | 17093     | 31       | 17145     |
| 12       | 10159     | 32       | 14123     |
| 13       | 17071     | 33       | 17146     |
| —        | 17131     | 34       | 1819      |
| 15       | 17063     | 35       | 17147     |
| —        | 17097     | —        | 17132     |
| —        | 17094     | —        | 17151     |
|          |           | —        | 17157     |
|          |           | 36       | 17156     |
|          |           | 37       | 1649      |

When ordering spare parts please state, in addition to the order number of the part (not number of the Fig.), also the type and factory number of the magneto.

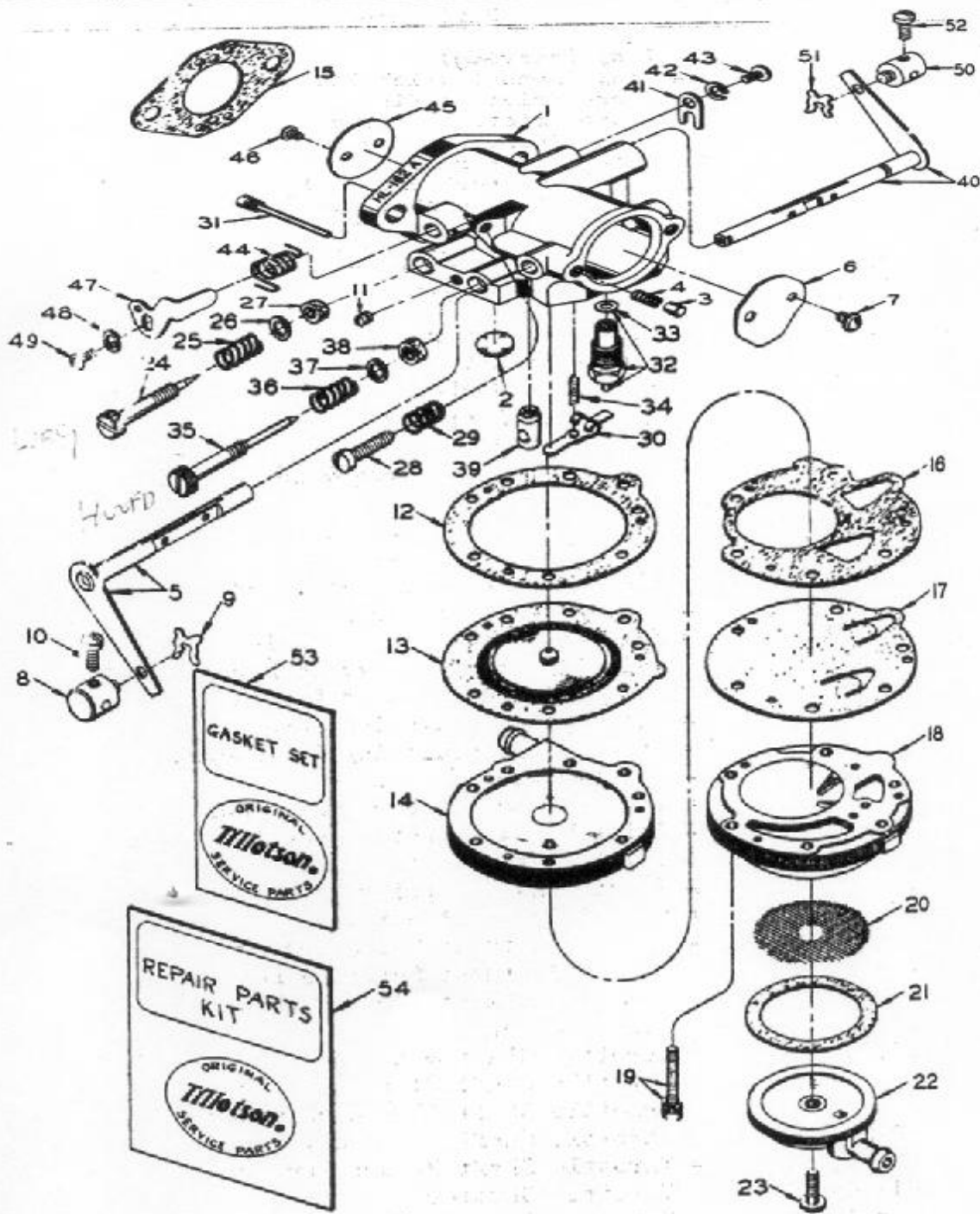
**AKTIEBOLAGET SVENSKA ELEKTROMAGNETER • ÅMÅL • SWEDEN**  
TELEPHONE: 120 10      Telegraphic address: MAGNETER



| Ref. No. | H1-162A Part No. | Part Name                                 |
|----------|------------------|---|
| 1        | 013204           | Body (service)                            |
| 2        | 02531            | * Body Channel Welch Plug                 |
| 3        | 05454            | Choke Friction Pin                        |
| 4        | 08805            | Choke Friction Spring                     |
| 5        | 013199           | Choke Shaft & Lever                       |
| 6        | 09195            | Choke Shutter                             |
| 7        | 08942            | Choke Shutter Screw (2)                   |
| 8        | 012406           | Choke Wire Connection                     |
| 9        | 010392           | Choke Wire conn. Ret. Clip                |
| 10       | 058              | Choke Wire Ret. Screw                     |
| 11       | 02232            | Diaphragm Chamber Drain Screw             |
| 12       | 012473           | Diaphragm Gasket                          |
| 13       | 012475           | * Diaphragm                               |
| 14       | 010834           | Diaphragm Cover                           |
| 15       | 012354           | Flange Gasket                             |
| 16       | 012930           | Fuel Pump Gasket                          |
| 17       | 012708           | * Fuel Pump Diaphragm                     |
| 18       | 010525           | Fuel Pump Body                            |
| 19       | 010098           | Fuel Pump Body Sreq & Lockwasher (6)      |
| 20       | 010530           | * Fuel Strainer Screen                    |
| 21       | 010529           | Fuel Strainer Cover Gasket                |
| 22       | 010527           | Fuel Strainer Cover                       |
| 23       | 010571           | * Fuel Strainer Cover Ret. Screw          |
| 24       | 011498           | * Idle Adjustment Screw                   |
| 25       | 08793            | * Idle Adjustment Screw Spring            |
| 26       | 011428           | Idle Adjustment Screw Washer              |
| 27       | 011401           | Idle Adjustment Screw Packing             |
| 28       | 05095            | * Idle Speed Regulating Screw             |
| 29       | 0788             | * Idle Speed Regulating Screw Spring      |
| 30       | 010513           | * Inlet Control Lever                     |
| 31       | 010581           | * Inlet Control Lever Pinion Screw        |
| 32       | 012655           | * Inlet Needle, Seat & Gasket             |
| 33       | 012656           | Inlet Seat Gasket                         |
| 34       | 011503           | * Inlet Tension Spring                    |
| 35       | 013195           | * Main Adjustment Screw                   |
| 36       | 08793            | * Main Adjustment Screw Spring            |
| 37       | 011428           | Main Adjustment Screw Washer              |
| 38       | 011401           | Main Adjustment Screw Packing             |
| 39       | 012458           | Nozzle Check Valve                        |
| 40       | 013202           | Throttle Shaft & Lever                    |
| 41       | 09678            | Throttle Shaft Clip                       |
| 42       | 0992             | Throttle Shaft Clip Lockwasher            |
| 43       | 01974            | Throttle Shaft Clip Ret. Screw            |
| 44       | 010775           | * Throttle Shaft Return Spring            |
| 45       | 012283           | Throttle Shutter                          |
| 46       | 08942            | * Throttle Shutter Screw & Lockwasher (2) |
| 47       | 010783           | Throttle Stop Lever                       |
| 48       | 06396            | * Throttle Stop Lever Ret. Lockwasher     |
| 49       | 06393            | * Throttle Stop Lever Ret. Screw          |
| 50       | 012406           | Throttle Wire Connection                  |
| 51       | 010392           | Throttle Wire Conn. Ret. Clip             |
| 52       | 058              | * Throttle Wire Ret. Screw                |
| 53       | GS-170           | * Gasket & Packing Set                    |
| 54       | RK-585           | Repair Parts Kit                          |

(\* Indicates contents of Repair Parts Kit

June 25, 1963



NOTE: THE ABOVE PARTS ARE MANUFACTURED BY THE TILLOTSON MANUFACTURING COMPANY, 11 E. 10TH ST., CLEVELAND, OHIO.

THE TILLOTSON MFG. CO. - 11 E. 10TH ST. CLEVELAND, OHIO

A. B. GOTTMOTORER

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| DATE   | BY          | REVISION |
|--------|-------------|----------|
| 3-3-63 | W. J. E. L. | 1        |
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RELEASE DATE: 3-3-63



# TILLOTSON DIAPHRAGM CARBURETOR FIELD HINTS

## For The Operator

Set idle speed slightly slower than the chain-creep speed or clutch engagement speed. This will reduce stalling to a minimum.

Adjust idle mixture for best running. The correct adjustment is usually about 1/2 to 3/4 turn open. Don't force the adjustment into its seat.

Adjust high speed reasonably rich, to prevent overheating of engine. Do not try to use an economy mixture. The best adjustment is usually 1 to 1-1/4 turns open. Don't force the adjustment into its seat.

If the carburetor mixture cannot be leaned sufficiently at high speed with the high-speed adjustment, something is causing the fuel inlet valve to leak. It may be dirt under the inlet valve, leaky rubber seat, wrinkled metering diaphragm, or rocker arm projecting out of the casting.

Speed the engine just before turning the saw to a new sawing position. This clears the crankcase of a possible fuel puddle, and stabilizes the engine to the new position.

Inspect the fuel tank filter and hose occasionally. The hose may have a split in it, or may have dropped off the mounting, or is too stiff to allow the filter head to drop into the tank corners. The filter also may be clogged or broken. Our Model OW-497 Fuel Tank Filter will perform a long time without servicing. If necessary, it can be cleaned by reverse blowing with an air hose.

Flush the gasoline tank thoroughly at least every 100 hours of service to keep the sawdust and water content from accumulating. Keep the oil-measuring cup clean.

Run the carburetor dry and drain the fuel tank before storing engine longer than two or three months. Gasoline gum may form in both, and render the unit inoperable if this is not done.

The Model HL Carburetor can be cleaned easily in the following way if air pressure is available:

- (1) If possible, flush the carburetor clean with gasoline before removing it from the saw so that the external dirt will not get into the carburetor or on the work area. After removing the carburetor, flush it with gasoline and blow with compressed air to further remove external dirt. Do not blow compressed air into the fuel inlet connection on the bottom, or into the small, square vent-hole on the left side of the carburetor. The high pressure may damage the diaphragms.
- (2) Select a clean area for disassembly and repair of the carburetor. Dirt is the most frequent cause of carburetor trouble; and a clean work area is necessary. Clean gasoline to wash the parts, and clean compressed air to blow dirt out of passages, is also required. Do not wipe the carburetor or parts with a cloth, or lint may cling to the parts.
- (3) Remove the filter cover, gasket, and filter, by removing one screw in the center of the cover on the bottom of the carburetor. Remove the six screws that hold the plates to the carburetor body. Notice that under the air intake there is a projection on each plate; and by inserting a screwdriver end between the projections, the plates can be pried apart without damaging the gaskets and diaphragms.

Note the locations of the gaskets and diaphragms so that they can be replaced in the correct order.

(4) Remove the high and low-speed adjustments, the rocker arm shaft, rocker arm, spring, and inlet needle. Do not remove the inlet seat unless you are certain that it is damaged and needs to be replaced. Handle the rocker arm spring very carefully.

(5) Blow clean, compressed air into all openings of the body casting to remove dirt from the channels and holes of this part. Do not use wires or drills to clean the carburetor body.

(6) Wash all parts with clean gasoline and blow with clean, compressed air before reassembling the parts to the carburetor body. Replace all worn or damaged parts with new parts. Do not use a brush on the final cleaning operation. A brush is always contaminated with dirt particles.

9B. The Model HL diaphragm carburetor can be cleaned in the field with a minimum number of tools. Usually, cleaning and correct adjustment of the carburetor is all that is necessary.

(1) After removing the carburetor, flush it with gasoline to remove all external dirt; also, wash the tools and hands so that they will be totally free from sawdust and dirt.

(2) Select a clean area for disassembly and repair of the carburetor - a rock or a stump that has been wiped clean, a lunch box, a board that is dust-free, or similar clean area. Lint, sawdust, sand, and dirt are the most frequent causes of carburetor trouble; and a clean repair area is necessary for a good carburetor cleaning job.

(3) Remove the filter cover, gasket, and filter by removing one screw in the center of the cover on the bottom of the carburetor. Remove the six screws that hold the plates to the carburetor body. Notice that under the air intake there is a projection on each plate; and by inserting a screwdriver end between the projections, the plates can be pried apart without damaging the gaskets and diaphragms. Note the locations of gaskets and diaphragms so that they can be replaced in the correct order.

(4) Remove the high and low-speed adjustments, the rocker arm shaft, rocker arm, spring, and inlet needle. Do not remove the inlet seat unless you are certain that it is damaged and needs to be replaced. Handle the rocker arm spring very carefully.

(5) Flush the body casting spotlessly clean with clean gasoline. Do not try to re-use gasoline because this would put dirt back into the carburetor. Flush each part with fresh gasoline just before assembling to the carburetor body. Keep hands and tools clean. Do not use a cloth on parts or tools because small pieces of cloth or lint may cling to the parts and spoil the cleaning job.

10. When installing a new inlet seat, tighten lightly so as to form a light ring on the copper seat; or, tighten to 30 inch-pounds torque, or 24 Kg-Cm.

11. Do not force the inlet needle valve into the rubber seat when setting the rocker arm. It may tear the seat if you do.

12. When cleaning the carburetor filter screen, **CLEAN IT VERY THOROUGHLY.** Never install a dirty or partly-clean screen reversed to its original position, or particles will be washed off the dirty side into the carburetor jets and valves.

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**TILLOTSON MANUFACTURING CO.**  
PARTS AND SERVICE DIVISION  
TOLEDO 12, OHIO USA