

Springstarter

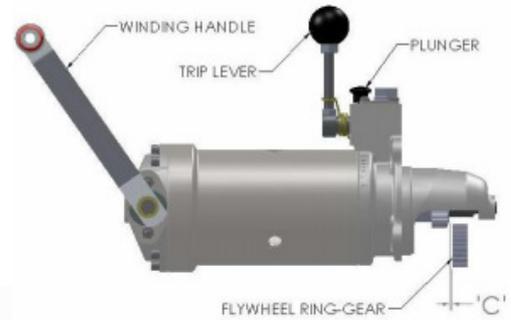
Easy Diesel Hand Starting With **Kineteco** Spring Starters

SS/SR-E & HSS/HSR-E Spring Starter Operator's Instructions

Please read carefully

ALWAYS FIT ANY SPACERS BEFORE TAKING MEASUREMENTS

- a) Check that the starter is of correct rotation for the engine: '(H)SS-E' starter rotates clockwise and '(H)SR-E' starter anti-clockwise, when viewed from the pinion end.
- b) Before installing the starter on the engine, ensure the starter pinion to flywheel ring-gear clearance, dimension 'C' is correct for the application. This check will require the use of the card-gauge supplied with the starter (Pub No. A079).
 - 1) Measure dimension 'A' - Flywheel ring-gear to engine mounting flange.
 - 2) Measure dimension 'B' - Starter pinion to starter mounting flange.
 - 3) Dimension 'C' is determined as: 'C' = 'A' - 'B'
- c) Check that pinion can extend 20mm from rest position and does not foul the flywheel.
- d) On some engine installations in which a starter is to replace an electric starter, the spring starter body may be larger than that of the electric starter. This may create a foul condition with the engine crankcase, thus requiring displacement of the starter centreline by the use of an offset mounting spigot and fixing holes. The Spring Starter will also be specified with a larger diameter pinion, with a greater number of teeth, than the original starter.



'C' Dimension: 2.5 to 5

- e) **Install the starter on the engine**

After installation check that the pinion in the 'at rest' position does not engage with the ring gear by operating the trip lever and turning the handle several times - the engine must not move. Then ensure that the pinion correctly engages the flywheel ring gear by carrying out the following instructions:-

 - 1) Re-set the trip mechanism by lifting the plunger, allowing the trip lever to move to the upright position.
 - 2) Rotate the winding handle ONE TURN (sometimes a little more). This should pre-engage the pinion.
 - 3) Move the trip lever through 90 degrees until it holds out.
 - 4) Continue turning the winding handle. If the engine turns freely for a full rotation, engagement is correct. Stop turning the winding handle. Reset the trip mechanism by lifting the plunger as before in 1).

(It may take several attempts for the above to work)

The starter may now be operated as normal but only under a minimal load for the initial operations, gradually increasing the load as the action continues. If all is operating satisfactorily, proceed to instruction (g).

If, after several attempts, the engine does not turn when the winding handle is rotated, the starter pinion has not engaged with the flywheel ring gear. Proceed as instruction (f).
- f) Ensure that instructions (b) and (c) have been carried out correctly. Particular attention should be paid to any spacers originally fitted between the electric starter mounting face and the flywheel housing. It may be necessary to remove or add spacers to achieve the required 2.5 to 5 mm pinion-to-flywheel clearance. ('C' dimension, Fig.1). If the starter now engages, proceed to instruction (g). If it does not, there may be a fault in the starter in which case you should contact your local Kineteco Distributor.
- g) Stick the operating instruction label on the equipment so that it is easily visible when using the starter.

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TO START THE ENGINE

- Ensure that engine and machinery are safely prepared for starting.
- Check that the fuel tap is in the 'on' position, and that sufficient fuel is in the tank.
- Position the throttle as per the Engine Operators Manual instructions for starting. Most engines require at least a 3/4 open position.
- Re-set the trip mechanism by lifting the plunger, allowing the trip lever to move to the upright position.
- Using the handle, wind the starter clockwise  until the white springs are visible through the inspection window. For a warm engine the starter is now sufficiently primed. For a cold engine wind until red springs are visible
NOTE: Over winding will reduce the life of the starter.
- REMOVE THE HANDLE FROM THE STARTER.** The starter must NEVER be tripped with the winding handle in place.
- OPERATE THE MANUAL FUEL LIFT PUMP (if fitted) to ensure good fuel supply to the engine**
- Move the trip lever through 90 degrees until it holds out.
- Adjust the throttle to the desired level.

CAUTION: Never leave the Spring Starter part-wound.

NOTE: It is possible to unwind the starter, should the need occur, by turning the handle anticlockwise . Additional force will be required to overcome the initial friction.

NOTE: If engine does not start first time, allow it to come to a complete rest before retrying.

PRODUCT IDENTIFICATION

Each starter has a type symbol plate attached as indicated in figure 1. The plate details two items of information; A and B. The meaning of each item is described below.

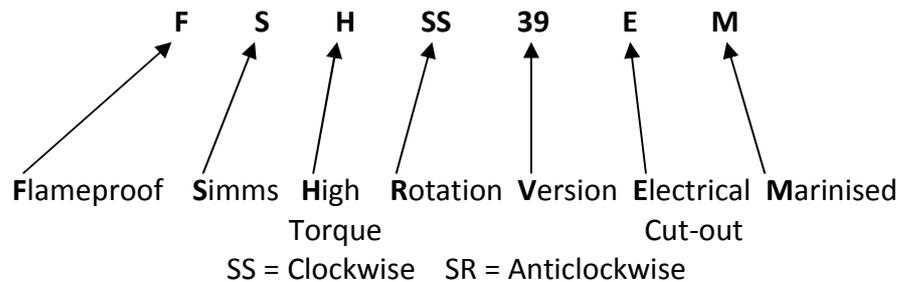


A: TYPE SYMBOL

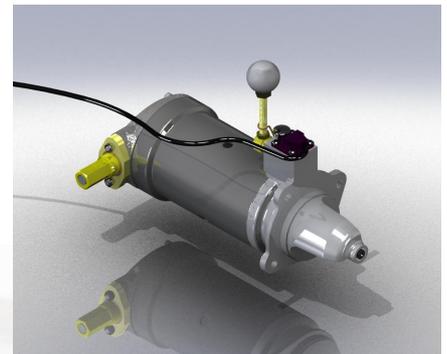
B: SERIAL NUMBER

Numerals – Unique number for the starter

Letters – Production date code



For installation instructions see overleaf



CAUTION
DO NOT WIND THE STARTER AT ANY TIME UNLESS PROPERLY INSTALLED ON AN ENGINE

CAUTION
NEVER ATTEMPT TO DISMANTLE A SPRING STARTER YOURSELF. THIS PROCESS REQUIRES SPECIALISED TOOLING AND EXPERIENCE.
ALWAYS SEND THE STARTER TO YOUR LOCAL KINETECO DISTRIBUTOR FOR REPAIR.

CAUTION
USE ONLY ENGINE MANUFACTURERS RECOMMENDED OR APPROVED COLD STARTING SYSTEM

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