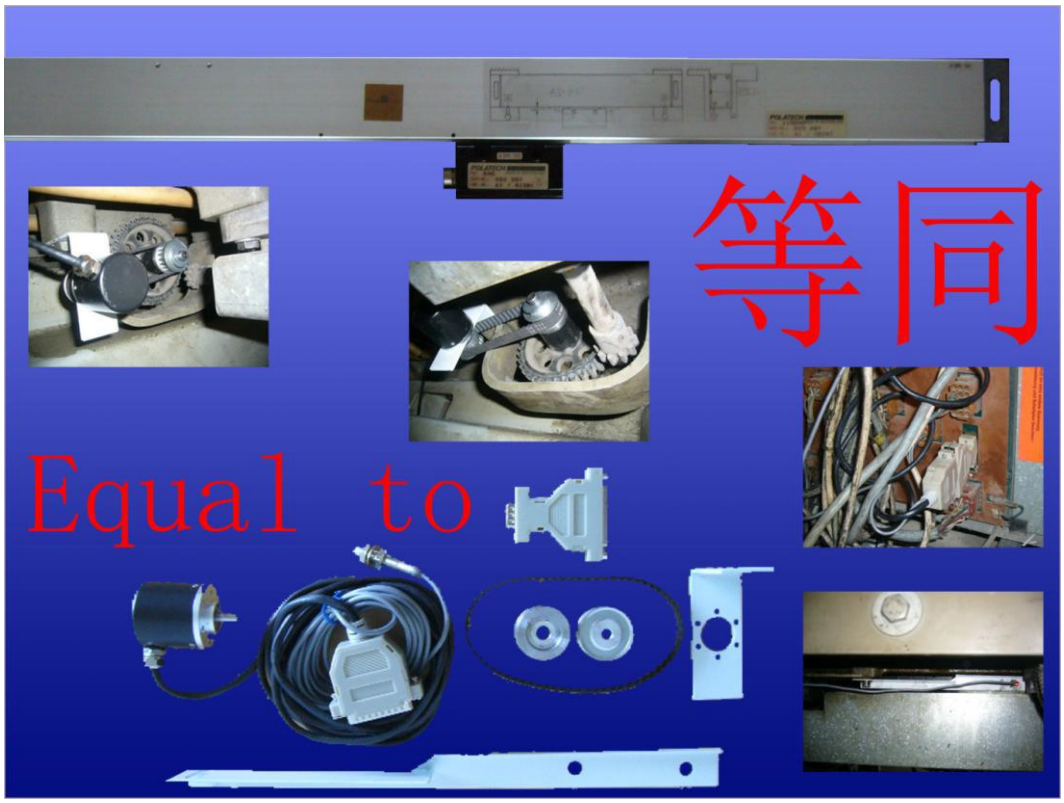


LMS Replacement. Set

Linear Measuring System for all kinds of Polar EMC II Cutters

LMS Replacement Set

New precision measuring system for Polar SD, SDP, EM and EMC cutters

Introduction
LMS REPLACEMENT SET is a cutting edge technology product using state of the art precision encoder and chipset. LMS REPLACEMENT SET can upgrade the older LMS of Polar 76-155SD, SDP, EM, EMC-I and EMC-II models to the new series of ED or XT model. It is the best choice of component for replacement of Polar SD, SDP, EM and EMC cutters.

Comparison of Technology Adopted in New and Old series Polar Cutter
Distance calculator of Polar EM and SD models includes a high precision Linear Measuring System (LMS).The scanning head is attached on the backguage sledge. The scanning head moves along the LMS together with the backguage and send digital pluses back to positioning computer (AR). Since the scanning head is moving along LMS in order to scan data, the LMS cannot be contained in a sealed environment. As a result, both the measurer and detector would be polluted by dust, humid air and other particles. The pollutants will reduce the lifetime of components. Also, the scanning head will be worn out due to sliding over the LMS New Polar ED and XT models are using high precision encoder which is contained in a sealed environment. New encoder can replace the outdated linear measuring system and scanning head. The new design of measurer together with improved mechanical structure, the lifetime and reliability of components are significantly improved.

Application of New Technology on Old series Polar Cutters
Can we apply the new technology on the old POLAR SD, SDP, EM and EMC II models? The answer is positive. LMS REPLACEMENT SET makes use of sealed container and high precision encoder. Our company (Welvin Engineering Company) successfully develops a conversion circuit board which can integrate the old Polar series cutters with the new generation decoder. The conversion circuit is stored in multi integrated chipsets compare to those single chip products our innovative design substantially improves the accuracy reliability and lifetime of the encoder.

Easy Installation of LMS REPLACEMENT SET
Since most components of the electric circuit are integrated inside the main circuit plug, the interface of conversion circuit is simple and easy to use. Extract the original LMS 9 pins plug

and replace it with the 25 to 9 pins main circuit plug.
Mount the decoder of LMS REPLACEMENT SET in the front table underneath. Finally place the proximity switch underneath the rear table.

Easy Calibration of LMS REPLACEMENT SET
LMS MOD. SET provide the same functions as the original linear measuring system.
As a result, there is no change of procedure in calibration and operation of Polar Cutter.

Procedures of Calibrating LMS REPLACEMENT SET
After the simply installation, turn on the Main switch and start the cutting machine. Move the backguage manually to the front and back limit position, then starting the following calibration:

Input nominal position value from keyboard (e.g. 40CM) and move the backguage to the target position with automatic mode. After cutting the paper, move the backguage to half value (40cm/2=20cm) of target position. Cut again and measure the dimension of remaining paper. If the size is different, say 1mm, then adjust the corresponding setting on the TAM card. Change the mm bcd switch by turning 1 digit increment. After each TAM card adjustment, the backguage must be move to front and back limit position again before next adjustment.

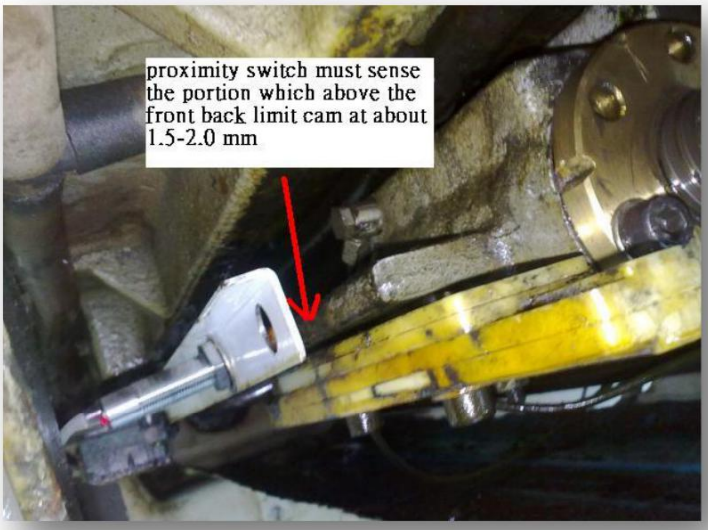
Q &A

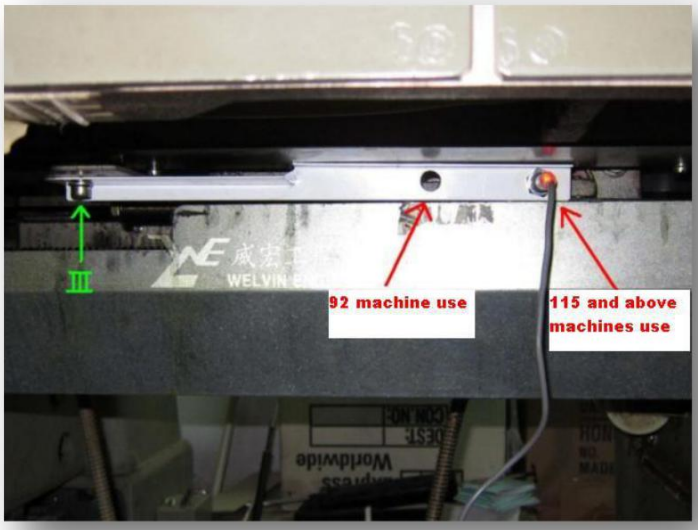
Q: Can the timing belt be mounted opposite to the cutter? i.e. moving in opposite direction.
A: Yes, simply exchange the 2 wires from pin 3 to pin 5 inside the encoder 25 pin plug
Q: How can LMS REPLACEMENT SET generate a reference signal?
A: LMS REPLACEMENT SET generates a reference signal from the reference point proximity switch.
Q: If there is no display of dimensions after initializing the computer of cutter machine?
A: The computer will ready to scan the reference point. Move the backguage from front limit position to back limit position by activating the hand wheel push button, reference signal will generate automatically from LMS REPLACEMENT SET.
Q: Will the cutter search for reference signal each time?
A: Only few models of Polar cutter (SD, SD-P, and EMC-1) need to search for reference point each time after turn on the main switch.

Instructions of Installing

Mounting the Encoder and Timing Gear

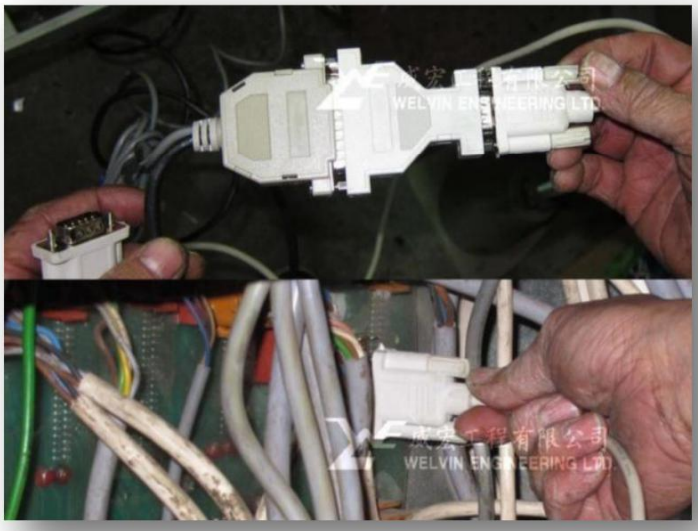
Firstly remove the snap ring(which lock the fine adjustment gear in position) from the spindle head and put on the timing gear wheel. Fix it by tighten up 3 screws with an allen key then mount the encoder and put on the belt as shown in the picture.(encoder holder should be placed between table and gear protector [II],size 92 machines must place the encoder at the left hand side while size 115 or above machines at the right hand side**)** **[!! Due to new design timing gear , you don't need to drill hole at the spindle !!]**





Reference point proximity switch install

Loosen the front limit switch plate screw [III] and mount the reference switch plate on the top and adjust it to suitable position (the proximity switch must sense the portion which above the front back limit cam at about 1.5-2.5 mm . (proximity switch must be adjusted correctly otherwise accuracy of the system may vary.)Finally adjust the reference point on the 'TAM' board according to the bcd switches, hints: 92 machines calibrate to approximately 42cm and 115 or above machines calibrate to approximately 52cm. (**attention 'TAM' board reference point LED will comes on during backguage backward movement only**)**



Installing (25 to 9 pins)main circuit plug

Unplug the original screen cable 9 pins plug and connect the (25 to 9 pins)main circuit plug which provided in our (LMS REPLACEMENT SET) to the encoder cable as shown in the picture. Plug in the other end of the 9 pin cable to CU unit and then installation completed.

(CAUTION: spindle nuts worn out will affect the system accuracy directly.)