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## OPERATING AND MAINTENANCE INSTRUCTIONS 300 Series Power Driven Tube Cutters

CAUTION: CERTAIN SAFETY PRECAUTIONS SHOULD BE TAKEN WHEN USING THIS EQUIPMENT. OSHA APPROVED PROTECTIVE DEVISES SHOULD BE WORN TO PROTECT THE EYES, EARS, HANDS, FEET, ETC OF THE OPERATOR. LOOSE CLOTHING SHOULD NOT BE ALLOWED TO CONTACT THE EQUIPMENT WHILE IN USE.

ELLIOTT POWER DRIVEN TUBE CUTTERS ARE DESIGNED TO CUT STEEL AND NON-FERROUS TUBES. NEW TUBES CAN BE CUT TO LENGTH A UNIFORM DISTANCE FROM THE FRONT (OUTSIDE) OF THE TUBE SHEET. EXISTING TUBES CAN BE CUT OFF ON THE BACK SIDE (INSIDE) OF THE TUBE SHEET TO ALLOW FOR REMOVAL WHEN RE-TUBING. EXTENSIONS ARE AVAILABLE IF REQUIRED.

## OPERATING INSTRUCTIONS :

DETERMINE THE DISTANCE THE CUTTER WHEEL IS TO BE POSITIONED IN FRONT OF OR BEHIND THE TUBE SHEET. LOOSEN THE TWO ALLEN SET SCREWS IN THE ADJUSTING COLLAR AND POSITION THE PRONG GUARD AS REQUIRED. IF ADDITIONAL DISTANCE BEHIND THE TUBE SHEET IS REQUIRED, THE GUARD PRONGS MAY BE GROUND OFF SO THAT THE GUARD IS SHORTER. CARE SHOULD BE TAKEN TO ASSURE THAT BOTH PRONGS ARE THE SAME LENGTH. TIGHTEN THE ABOVE TWO SET SCREWS FIRMLY ON THE TWO FLATS THAT ARE ON THE CUTTER FRAME. THIS INSURES THAT THE PRONG GUARD POSITION DOES NOT CHANGE.

ROTATE THE ALUMINUM FEED WHEEL ( LEFT HAND THREAD ) TO CONFIRM THAT IT TURNS FREELY. THIS ALSO CONFIRMS THAT THE CUTTER WHEEL AND CUTTER WHEEL CARRIER ARE EXPANDING AND CONTRACTING PROPERLY. ALSO CHECK TO SEE THAT THE CUTTER WHEEL TURNS FREELY AND IS NOT DULL. IF ANY OF THE ABOVE MENTIONED PARTS DO NOT MOVE FREELY, REFER TO THE MAINTENANCE SECTION OF THIS MANUAL.

CONNECT THE DRIVE MOTOR TO THE DRIVE FEED SCREW ( 1" MALE SQUARE ) VIA A SOCKET OR A SIMILAR CONNECTOR.

NOTE : MOTORS OF 100 RPM OR LESS ARE RECOMMENDED.

POSITION THE CUTTER WHEEL IN THE MINIMUM POSITION AND INSERT THE TUBE CUTTER INTO THE TUBE. CONFIRM THAT THE GUARD PRONGS ARE IN EQUAL CONTACT WITH THE FACE OF THE TUBE SHEET. UN-EVEN CONTACT CAN CAUSE BINDING AND POSSIBLE TUBE CUTTER DAMAGE.

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START THE DRIVE MOTOR AND THE TUBE CUTTER SHOULD ROTATE FREELY IN THE TUBE. THE CUTTER WHEEL SHOULD NOT BE IN CONTACT WITH THE TUBE AT THIS TIME. TO ENGAGE THE CUTTER WHEEL, GRASP THE ALUMINUM FEED WHEEL SO THAT IT DOES NOT ROTATE. THIS CAUSES THE ALUMINUM WHEEL TO TRAVEL DOWN THE LEFT HAND THREAD OF THE DRIVE FEED SCREW. THIS ACTION CAUSES THE CUTTER WHEEL CARRIER TO SLID UP THE TAPERED FEED WEDGE, CAUSING THE CUTTER WHEEL TO EXPAND. THE FEED RATE OF THE CUTTER WHEEL IS CONTROLLED BY THE OPERATOR. TO STOP THE EXPANDING OF THE CUTTER WHEEL, RELEASE THE ALUMINUM FEED WHEEL AND ALLOW IT TO ROTATE FREELY WITH THE DRIVE FEED SCREW.

AFTER THE TUBE HAS BEEN CUT OFF, STOP THE DRIVE MOTOR AND THREAD THE ALUMINUM FEED WHEEL OUT TO RETURN THE CUTTER WHEEL TO ITS MINIMUM POSITION ( THE DRIVE FEED SCREW SHOULD BE IN AS FAR AS POSSIBLE). THIS ALLOWS THE TUBE CUTTER TO BE REMOVED FROM THE TUBE, READY TO BE INSERTED INTO ANOTHER TUBE.

NOTE: THE CUTTER WHEEL EXPANSION IS LIMITED BY AN INTERNAL FEED STOP. DO NOT USE EXCESSIVE FORCE WHEN HOLDING THE ALUMINUM FEED WHEEL STATIONARY AS THIS COULD CAUSE THE CUTTER WHEEL CARRIER TO DAMAGE THE INTERNAL FEED STOP.

## MAINTENANCE INSTRUCTIONS :

BEFORE EACH USE, INSPECT THE DRIVE FEED SCREW THREADS TO ASSURE THAT THE ALUMINUM FEED WHEEL ROTATES FREELY.

INSPECT THE PRONG GUARD ASSEMBLY TO SEE THAT THE GUARD ROTATES FREELY.

INSPECT THE CUTTER WHEEL AND CUTTER WHEEL CARRIER TO ASSURE THAT BOTH MOVE FREELY. DULL CUTTER WHEELS SHOULD BE REPLACED. SEE THE INSTRUCTIONS BELOW.

LUBRICATE CUTTER WHEELS, CUTTER WHEEL CARRIERS, AND DRIVE FEED SCREW THREADS LIGHTLY WITH A LIGHT GRADE OIL SUCH AS WD40. LUBRICATE THE BEARING IN THE PRONG GUARD ASSEMBLY WITH A LIGHT COATING OF GREASE. WIPE ALL EXCESS LUBRICANTS OFF SO THAT DIRT WILL NOT COLLECT ON THESE PARTS.



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MONITOR THE FOLLOWING PARTS FOR NORMAL WEAR:

PRIMARY WEAR ITEMS

CUTTER WHEEL PIN

SECONDARY WEAR ITEMS

CUTTER CARRIER FEED WHEEL NUT FEED WEDGE

INSTRUCTIONS FOR REPLACING THE CUTTER WHEEL ARE AS FOLLOWS:

LOCATED ON THE FRAME, IN THE AREA BETWEEN THE PRONGS OF THE PRONG GUARD, THERE IS A SHORT BUSHING (METAL SLEEVE) THAT IS HELD IN PLACE BY A RETAINING RING REMOVE THIS RETAINING RING AND SLIDE THE SHORT BUSHING TO THE REAR OF THE CUTTER (AWAY FROM THE CUTTER WHEEL.). THIS WILL EXPOSE THE STOP PIN WHICH SHOULD BE REMOVED. BY PULLING THE DRIVE FEED SCREW BACK, THE CUTTER CARRIER WILL RISE UP AND OUT OF THE FRAME REMOVE THE CUTTER WHEEL PIN FROM THE CUTTER CARRIER AND REPLACE THE CUTTER WHEEL AND CUTTER WHEEL PIN. (NOTE THAT THE CUTTER WHEEL PIN IS A PRESS FIT AND MUST BE DRIVEN OUT OF THE CUTTER CARRIER.) LOWER THE CUTTER CARRIER BACK INTO THE FRAME, MAKING CERTAIN THAT THE LIP OF THE CUTTER CARRIER ENGAGES IN THE SLOT OF THE FEED WEDGE WHEN YOU PUSH THE DRIVE FEED SCREW FORWARD. REPLACE THE STOP PIN, REPOSITION THE SHORT BUSHING, AND REFASTEN THE RETAINING RING INTO THE SLOT IN THE FRAME MAKE SURE ALL PARTS MOVE FREELY BEFORE USING.