THREE DIFFERENT DIFFERENTIAL WINDING METHODS:
CENTER, SURFACE & SURFACE-CENTER

THREE DIFFERENT DIFFERENTIAL WINDING TYPES:
CORE-SPACER, DIRECT FRICTION & ROLL LOCK TYPE

1) LONGEST SET UP TIME
2) SPACERS ARE REQUIRED FOR EACH SLIT WIDTH
3) CORE CHATTER

ADVANTAGES
1) LEAST COST
2) HAVE CORE LOCATORS FOR FAST SET UP
3) EASY UNLOADING

ADVANTAGES
1) LEAST CORE DUST
2) SMOOTH TORQUE TRANSFER
3) CAN GET LOWER TENSIONS AT BIGGER DIAMETERS

DIFFERENTIAL WINDING IS FOR WINDING MULTIPLE ROLLS OF DIFFERENT DIAMETERS
LOCK CORE WINDING - ALL ROLLS MUST BE THE SAME DIAMETER

1) ONLY ONE OR TWO ROLL LOCKS UNDER EACH CORE (THREE WILL NOT WORK)
2) ONLY ONE OR TWO TENSION ZONES PER SHAFT
3) SHAFT MUST BE STACKED WITH SPACERS THAT MATCH THE SLIT WIDTH DESIRED
4) CANTILEVER SHAFTS ONLY
5) ROLLS MUST BE ROTATED BY HAND TO UNLOCK
6) SHAFTS ARE AT LEAST 7/8” SMALLER THAN CORE ID

ROLL LOCK USE AND CARE GUIDE
ROLL LOCKS ARE TORQUE ACTIVATED CHUCKS THAT ARE DESIGNED TO SLIP ON A MANDREL. TORQUE IS GOVERNED BY THE AMOUNT OF SIDE FORCE EXERTED BETWEEN THE STEEL DRIVE RINGS AND THE ROLL LOCK.
THE ROLL LOCK BODY IS MADE OUT OF PHENOLIC AND IS DESIGNED TO SLIP FREELY ON A MANDREL. THE PHENOLIC SHOULD BE WIPED DOWN MONTHLY WITH A LIGHT PENETRATING OIL SUCH AS WD-40. THIS WILL ALLOW THE OIL TO “WICK” OUT OF THE PHENOLIC AND SUPPLY LUBRICANT FOR SMOOTH, CHATTER FREE OPERATION.

ROLL LOCKS/ DRIVE RING SPACERS
SINGLE TENSION CORE-SPACER MANDREL
1) ALL CORES ARE THE SAME WIDTH
2) DIFFERENT SIDE FORCE IS REQUIRED FOR DIFFERENT SLIT WIDTH
3) ONLY TWO DIFFERENT SLIT WIDTHS CAN BE RUN ON EACH SHAFT
4) LOCK COLLAR MAKES UNLOADING SHAFT DIFFICULT IF TWO TENSION ZONES ARE USED

DUAL TENSION CORE-SPACER MANDREL
1) CORE-SPACER - EXTERNAL FORCE SQUEEZES THE CORES TOGETHER TO SUPPLY FRICTION - SLIPPING TAKES PLACE BETWEEN THE EDGE OF THE CORE AND THE SPACER
2) DIRECT FRICTION - INTERNAL FORCE PRESSES OUTWARD ON THE CORE INSIDE DIAMETER TO SUPPLY FRICTION - SLIPPING TAKES PLACE ON THE CORE INSIDE DIAMETER
3) ROLL LOCK TYPE - INTERNAL FORCE PRESSES OUTWARD ON THE INSIDE OF A CHUCK TO SUPPLY FRICTION - SLIPPING TAKES PLACE BETWEEN THE INSIDE DIAMETER OF THE CHUCK AND THE SHAFT