

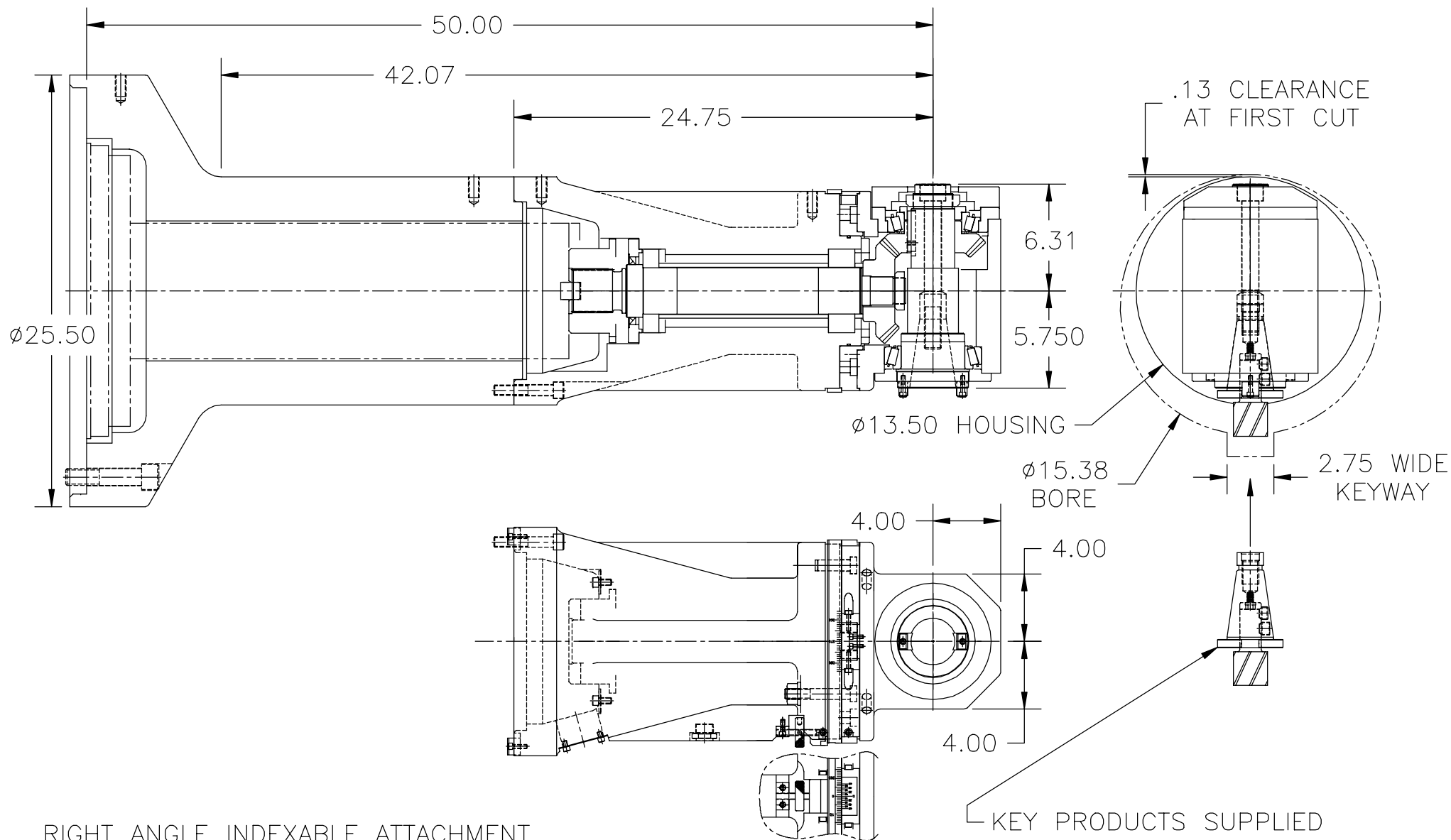
LARGE HMC ATTACHMENTS IDEA BOOK



Key Products, Inc.
10600 W. Glenbrook Ct.
Milwaukee, WI 53224
414-355-5399

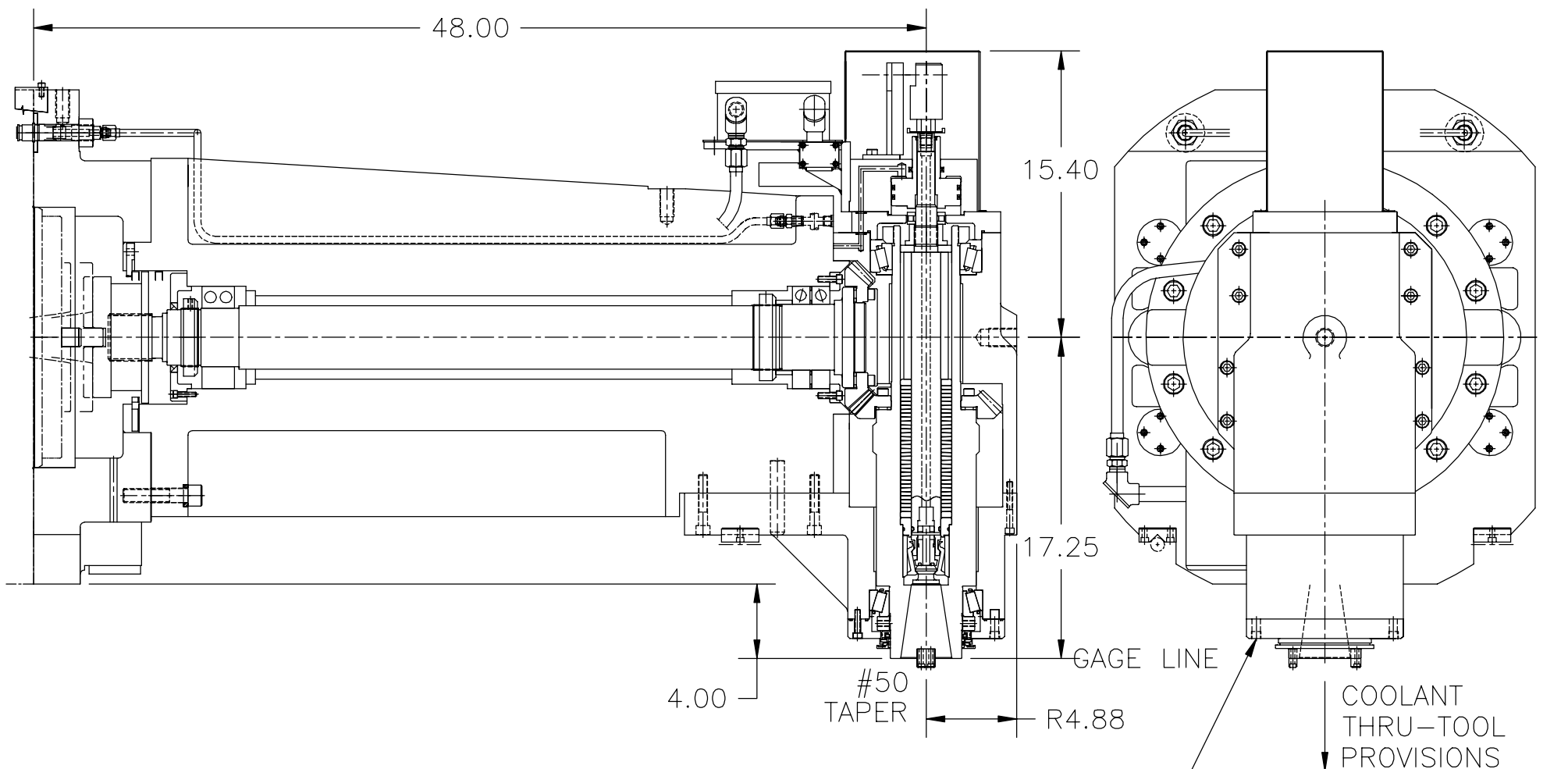
<http://www.keyproducts.net>

Key Products designs and manufactures machining attachments. This book includes some examples of previous projects. However, we can produce an attachment for your specific application.



RIGHT ANGLE INDEXABLE ATTACHMENT
 MOUNTS HORIZ. TO INGERSOLL HBM
 MANUAL 360 INDEX, SHOT BOLT AT 0°,90°,180°,270° POSITIONS
 #50 TAPER W/MANUAL DRAW BOLT
 GEAR RATIO = 1.00 TO 1.00
 LH INPUT FOR RH OUTPUT
 MAX. SPEED = 1500 RPM
 GEAR CAPACITY = 12 HP. PER 100 RPM
 NOT TO EXCEED 90 HP

DRAWING SCALE 1/8
 215159-300



NOTES:

RIGHT ANGLE ATTACHMENT (SPINDLE DOWN)

MOUNTS HORIZONTAL TO G&L 271 HBM

WITH AUTO LATCH PLATE

HEAD RATIO 1.00 TO 1.00

MAXIMUM SPEED = 1500 R.P.M.

MAXIMUM GEAR CAPACITY = 20 H.P. PER 100 R.P.M.

NOT TO EXCEED 100 H.P.

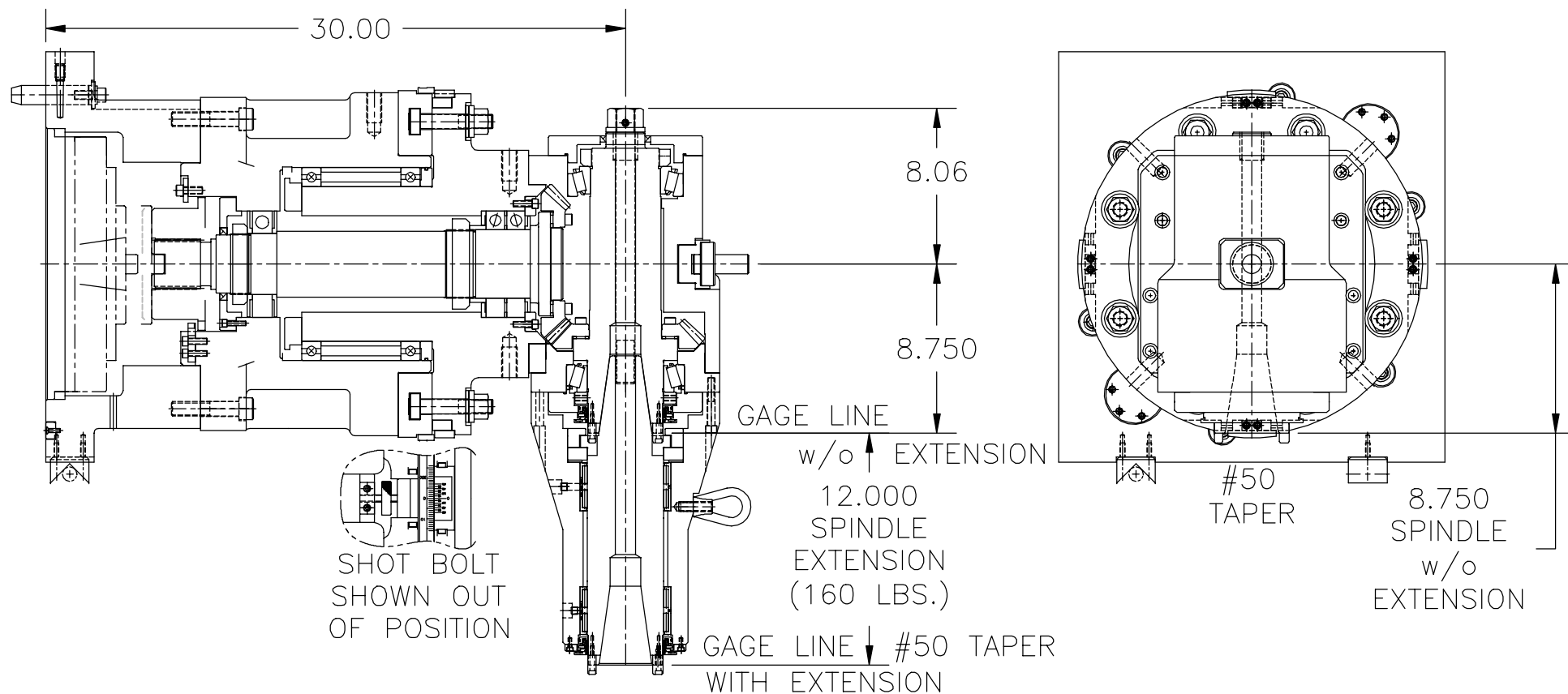
#50 TAPER WITH AUTO DRAWBAR

COOLANT THRU-SPINDLE

(4x) SPINDLE HOUSING COOLANT OUTLETS

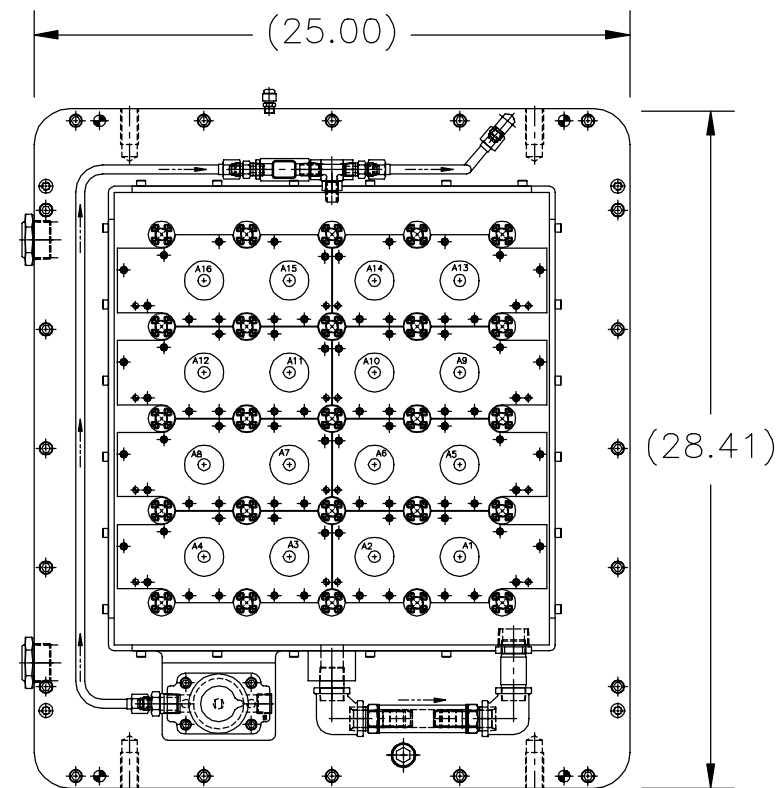
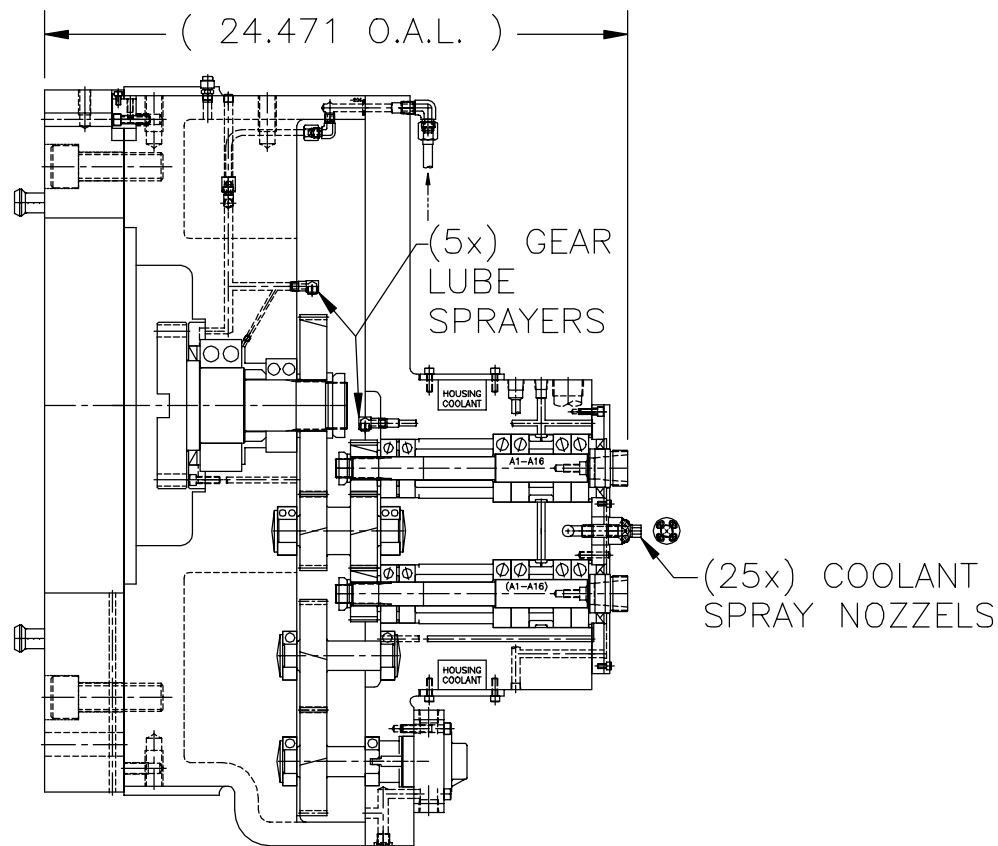
ESTIMATED WEIGHT = 2000 POUNDS

DRAWING SCALE 1/8
215185-300



RIGHT ANGLE MILL ATTACHMENT MOUNTS HORIZ.
 MANUAL 360 INDEX, SHOT BOLT AT 0°,90°,180°,270° POSITIONS
 #50 TAPER W/MANUAL DRAW BOLT
 12.00" EXTENSION w/#50 TAPER AND MANUAL DRAW BOLT
 MOUNTS TO G&L 271 MODEL No. 800RF WITH MANUAL CAM-LOCK PLATE
 GEAR RATIO = 1.00 TO 1.00
 RH INPUT FOR RH OUTPUT
 GEAR CAPACITY = 20 HP PER 100 RPM
 NOT TO EXCEED 90 HP
 MAX. SPEED = 1200 RPM
 ASSEMBLED WT. = 1565 LBS.

DRAWING SCALE 1/8
 214158-300



NOTES:

(16) SPINDLE MILL/DRILL HEAD

MOUNTS HORIZONTAL TO PAMA SPEED RAM HMC
HEAD RATIO 1 TO 3.428 INCREASE

INPUT SPEED = 1050 RPM, R.H. ROTATION

OUTPUT SPEED = 3600 RPM, R.H. ROTATION

GEARING (PRECISION GROUND GEARS)

10 PITCH, 20° P.A., 14.374° HELIX ANGLE, DECKS I & II

SPINDLES MADE FOR STANDARD COLLETS

FORCED OIL LUBRICATION WITH MOBILE #SHC 624

TUTHILL #1RFD-A-2, PUMP SPEED = 1800 RPM

AIR PURGE SPINDLE NOSE (MANUAL CONNECTION)

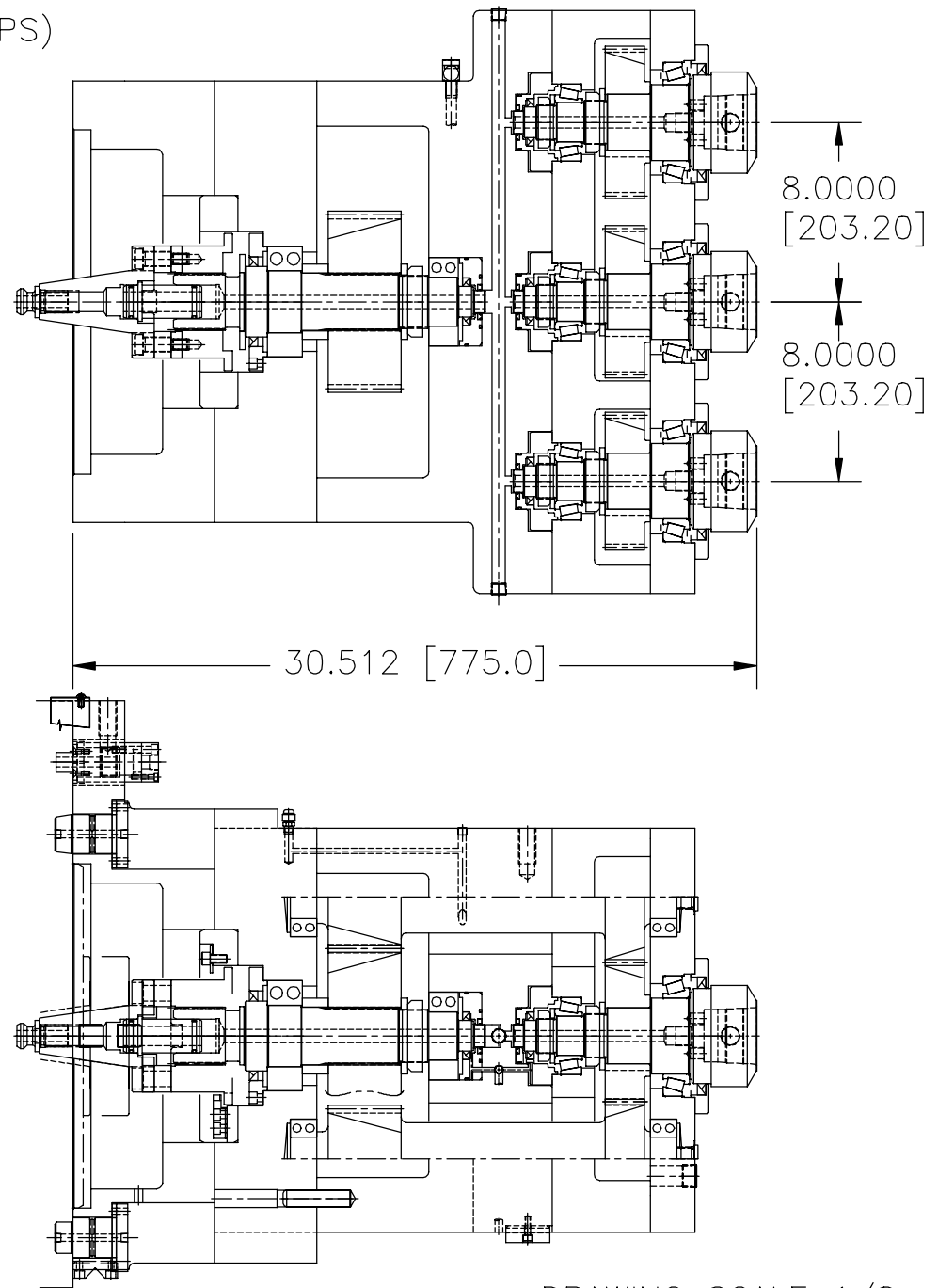
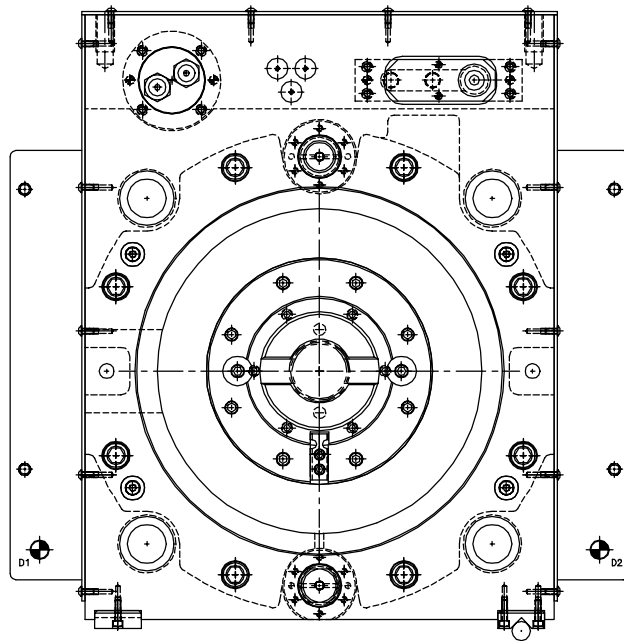
WATER COOLED FRONT COVER (CUTTING COOLANT, MANUAL CONNECTION)

(25x) SPRAY NOZZLES AT SPINDLES

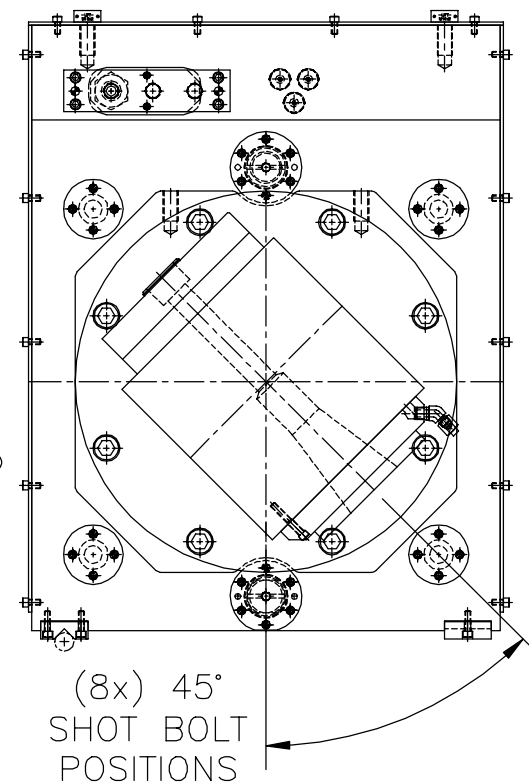
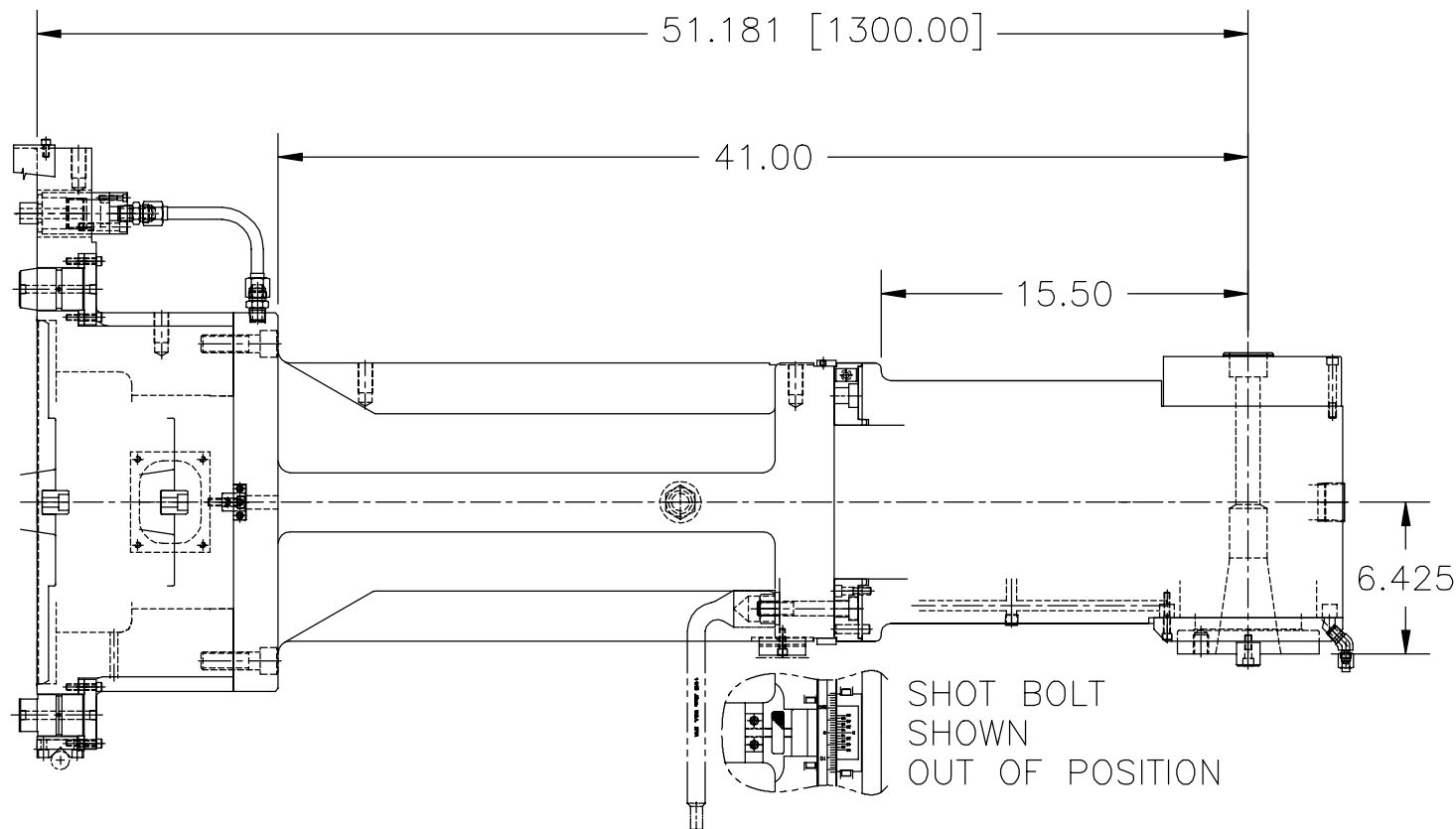
CERAMIC COATED SPINDLES & DRIVER FOR OIL SEALS

DRAWING SCALE 1/8
214220-300

3 SPINDLE (KENNAMETAL KM80) ATTACHMENT MOUNTS HORIZ.
 TO GIDDINGS & LEWIS 486 FTR 5000
 WITH AUTO LATCHPLATE (BERG HYDRODOCK 50 LOCKUPS)
 GEAR RATIO = 1.00 TO 1.50 SPEED INCREASE
 MAX. GEAR CAP. = 20 HP PER 100 RPM INPUT
 NOT TO EXCEED 100 HP
 MAX. SPEED = 1000 RPM INPUT (1500 RPM OUTPUT)
 OIL BATH LUBRICATION ~ MOBIL DTE 25
 COOLANT THRU SPINDLES
 (FED THRU MACHINE SPINDLE)
 COOLING CHILLED WATER GLYCOL INLET AND OUTLET
 (FED THRU LATCH PLATE)
 DUCTILE IRON HOUSING
 ACTUAL WT. = 2275 LBS. ~ 1032 KG.

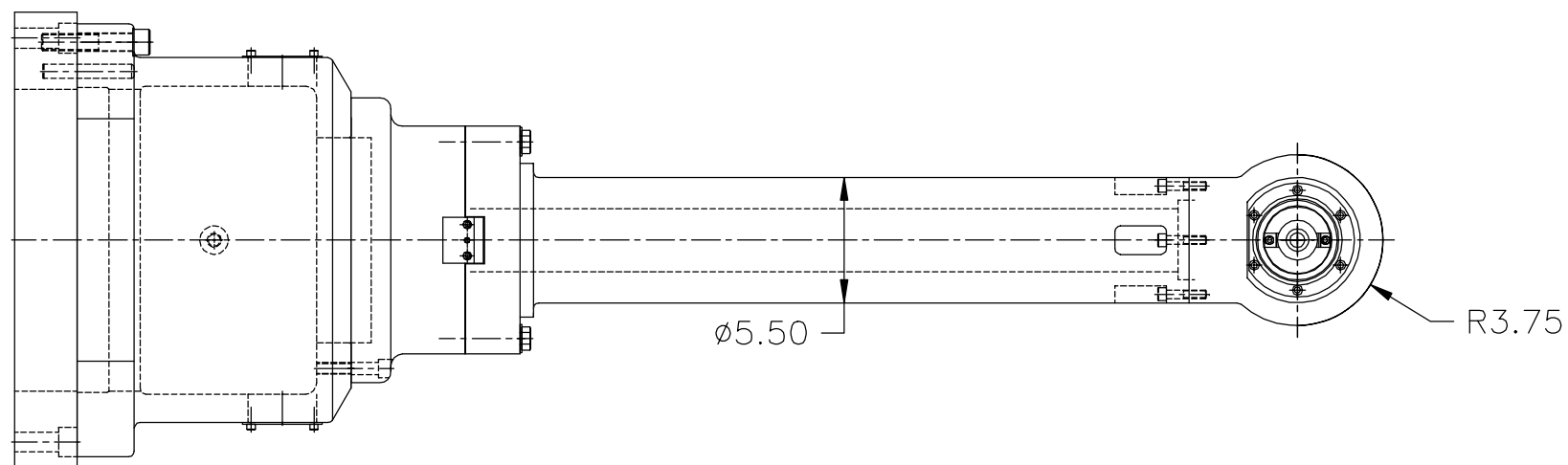
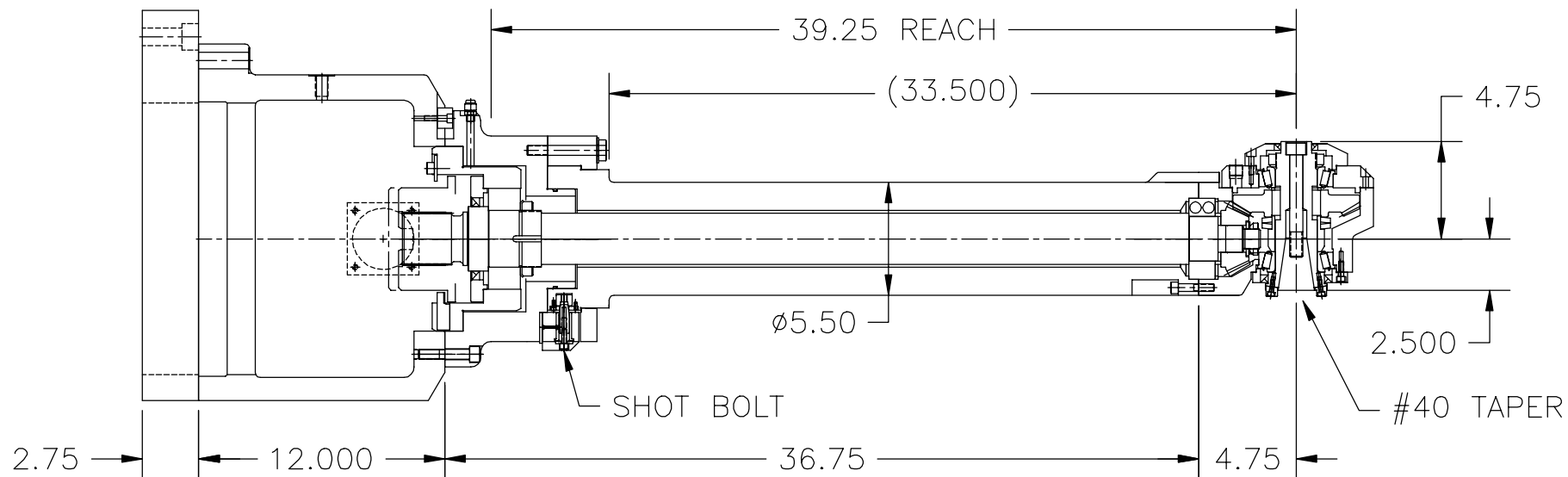


DRAWING SCALE 1/8
 210258-300



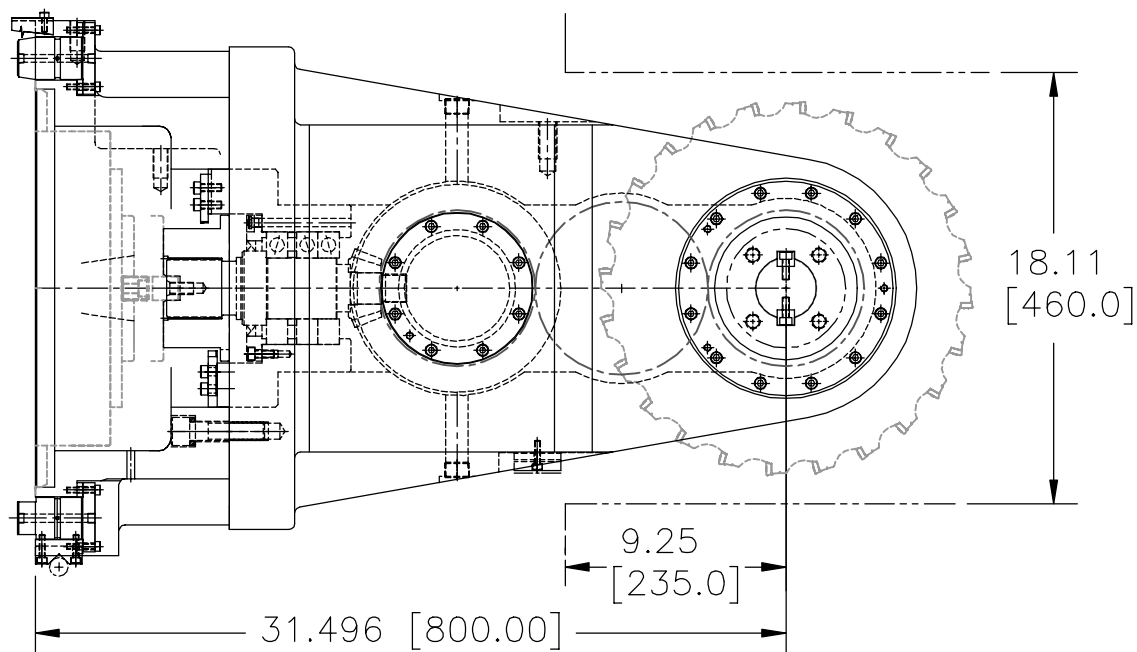
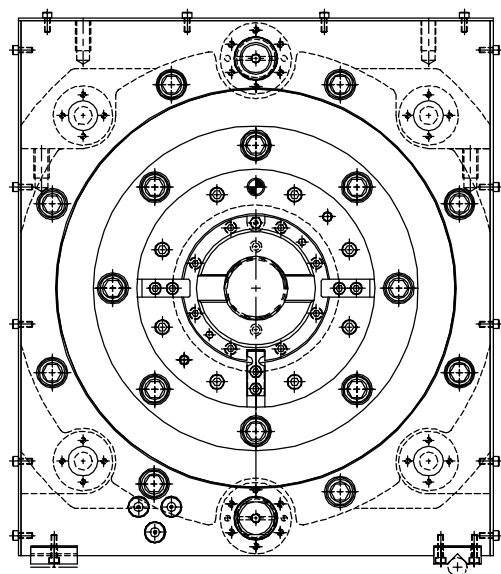
RIGHT ANGLE MILL ATTACHMENT MOUNTS HORIZ.
 MANUAL 360 INDEX, SHOT BOLT
 AT 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315° POSITIONS
 #50 TAPER W/MANUAL DRAW BOLT
 DESIGNED FOR 10.0" MILLING CUTTER
 MOUNTS TO G&L 486 WITH AUTO LATCH PLATE
 GEAR RATIO = 1.00 TO 1.00
 LH INPUT FOR RH OUTPUT
 GEAR CAPACITY = 12 HP PER 100 RPM
 NOT TO EXCEED 90 HP
 MAX. SPEED = 1500 RPM
 ACTUAL WT. = 1327 LBS. ~ 602 KG.
 OIL BATH LUBRICATION ~ MOBIL DTE 25

DRAWING SCALE 1/8
 212131-300

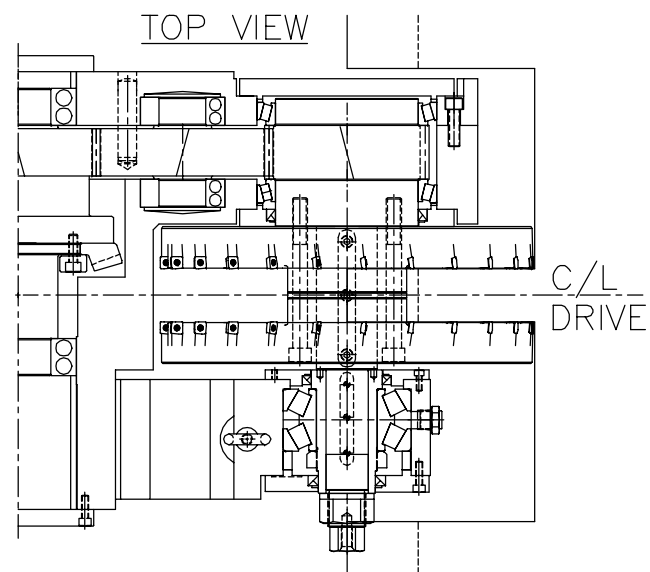


HEAD MOUNTS HORIZ. TO G&L HBM WITH SNOUT
 GEAR RATIO = 1.00 TO .50 REDUCTION
 MAX. INPUT SPEED = 1500 RPM (750 RPM OUTPUT)
 MAX. GEAR CAP. = 4 HP. PER 100 RPM INPUT
 NOT TO EXCEED 40 HP.
 SPLASH OIL LUBRICATION ~ MOBIL SHC 626
 INDEX WITH SHOT PIN AT 0°, 90°, 180°, 270°

DRAWING SCALE 1/8
 213174-300

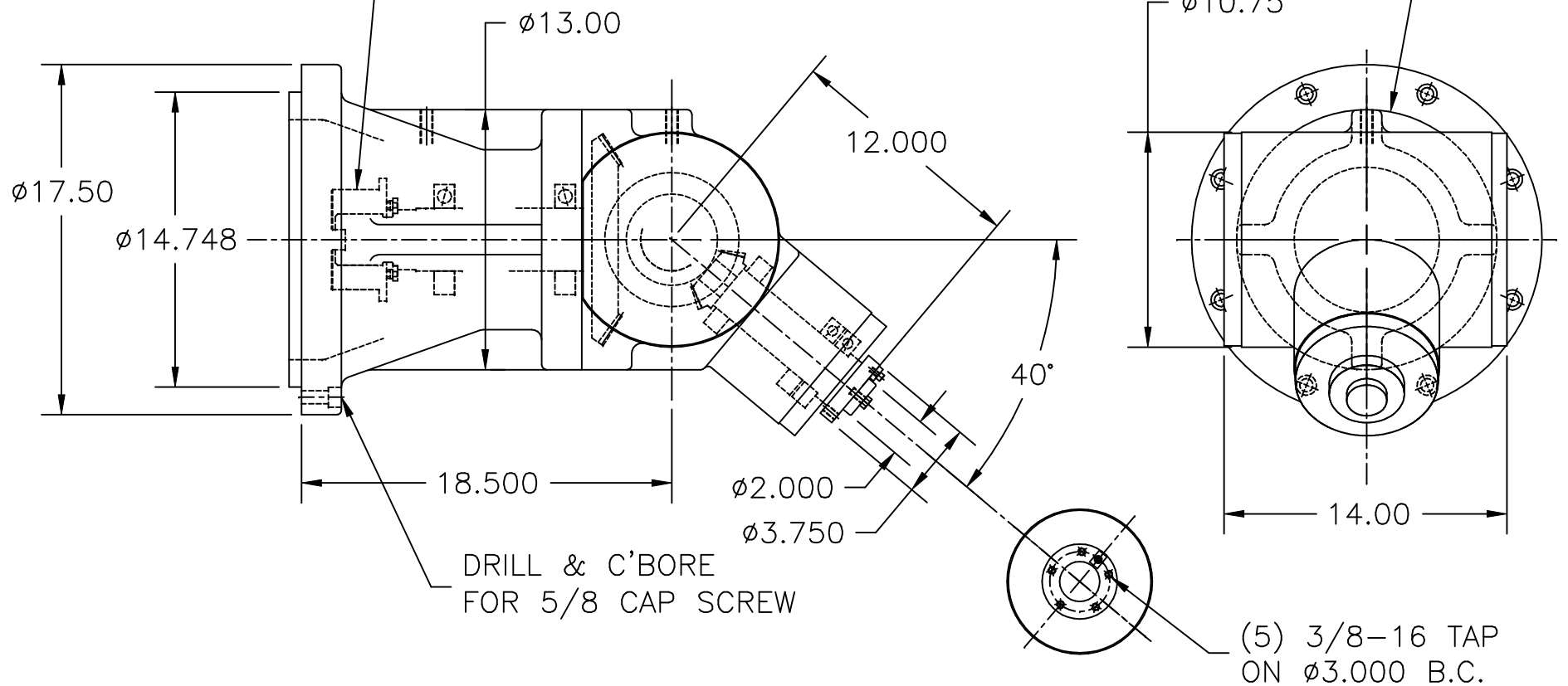


ARBOR MILLING ATTACHMENT
 MOUNTS TO MAG 480 BORING MILL
 GEAR RATIO 3.0 TO 1.0 REDUCTION
 MAX. INPUT SPEED = 1500 RPM
 MAX. OUTPUT SPEED = 500 RPM
 INPUT GEAR CAPACITY = 5 H.P. PER 100 RPM
 OUTPUT GEAR CAPACITY = 15 H.P. PER 100 RPM
 NOT TO EXCEED 50 H.P.
 SPIRAL BEVEL GEAR SET = 5.5 PITCH
 REMAINDER OF GEARS = 6 PITCH, 15° HELICAL GEARS
 CERAMIC COAT FOR OIL SEALS
 ACTUAL WT. = 1825 LBS. ~ 828 KG.
 OIL BATH LUBRICATION ~ MOBIL SHC 626 (TWO PLACES)
 CHECK OIL LEVEL AT SIGHT GLASS (TWO PLACES)



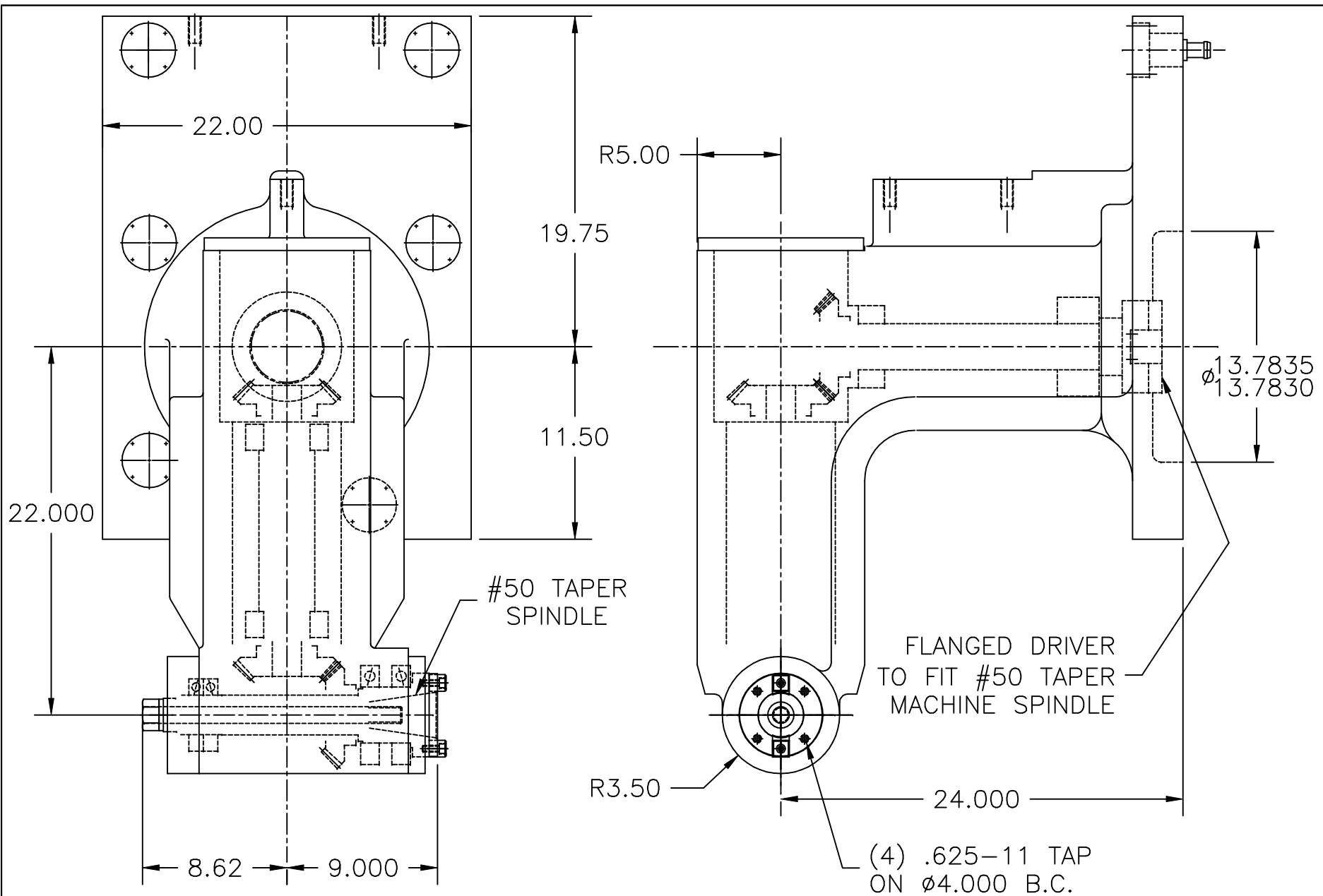
DRAWING SCALE 1/8
 212122-300

SPLINED DRIVE
COUPLING TO
FIT #50 TAPER
MACHINE SPINDLE



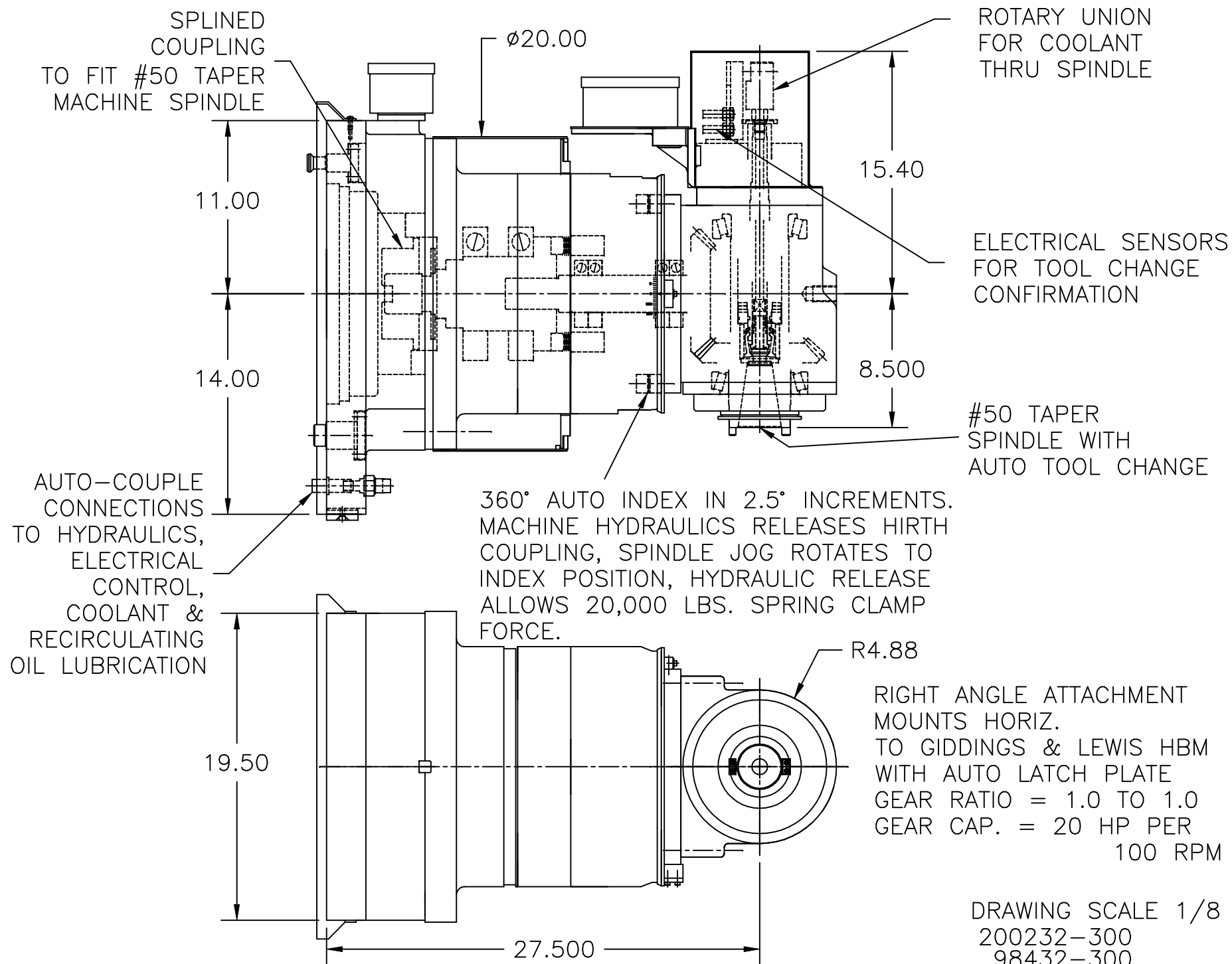
40° ANGLE ATTACHMENT
MOUNTS HORIZ.
TO LUCAS 50 T. MACHINING CENTER
GEAR RATIO = 1.0 TO 3.0 INCREASE
GEAR CAP. = 4.5 HP. PER 100 RPM OUTPUT

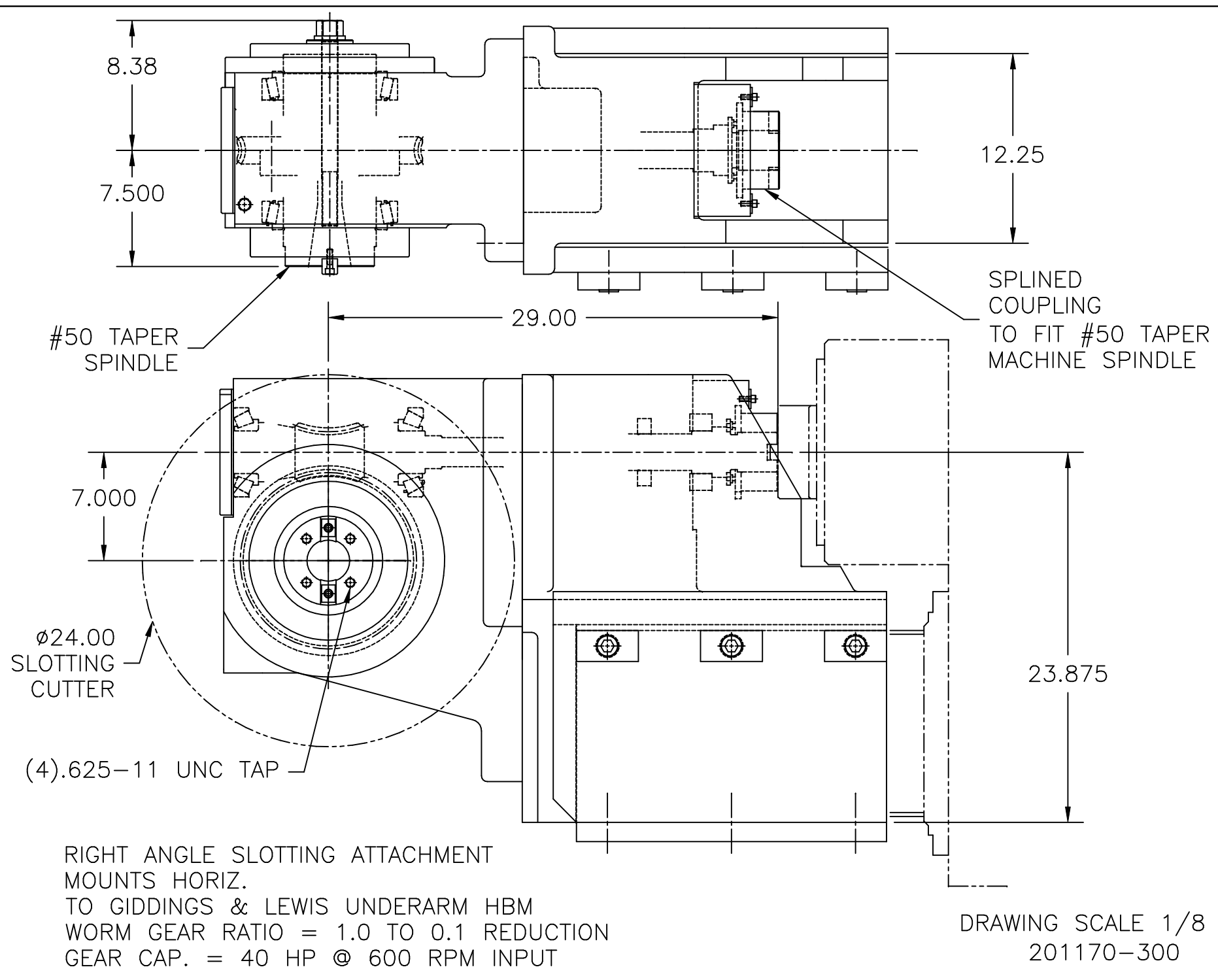
DRAWING SCALE 1/8
96201-300

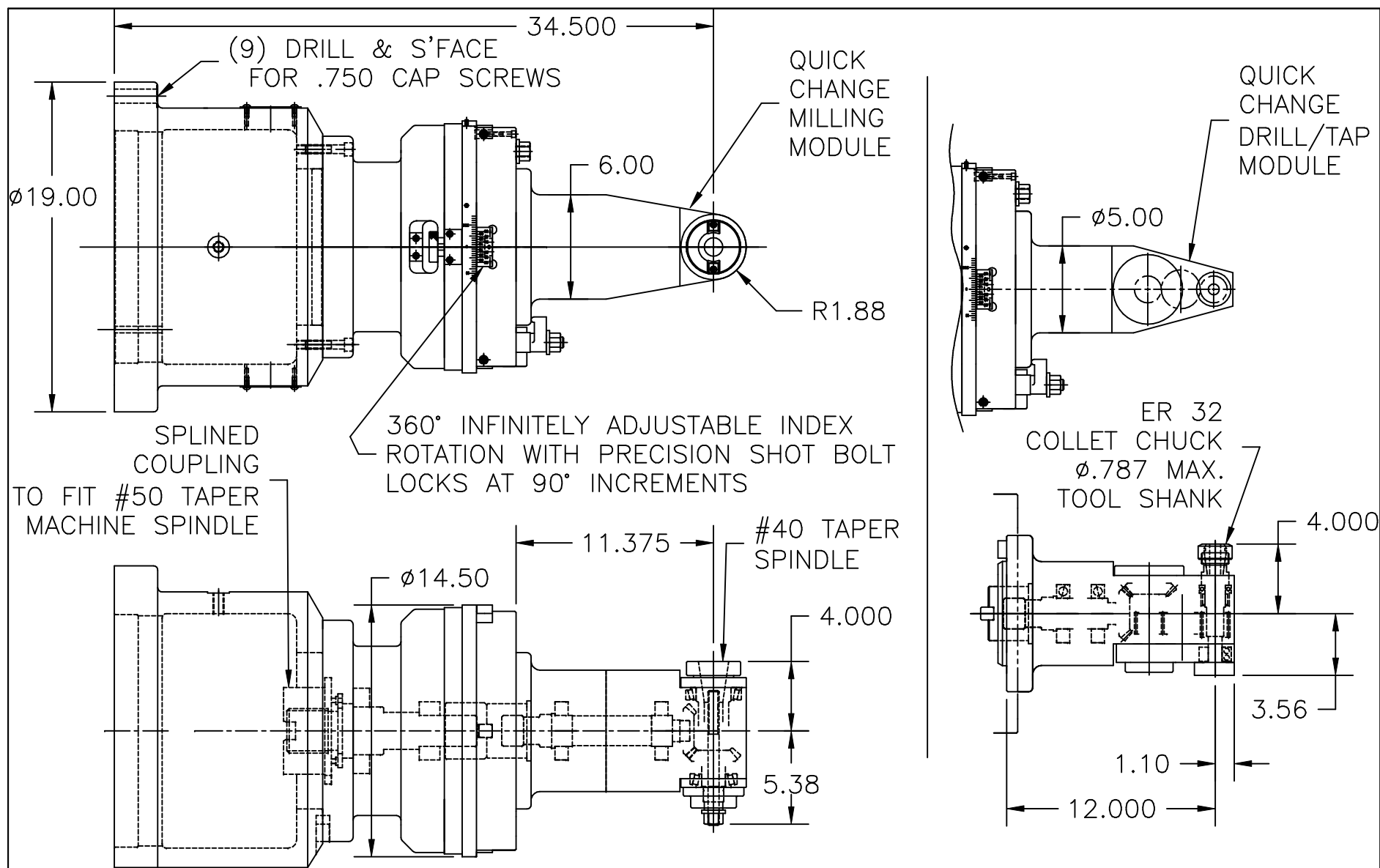


RIGHT ANGLE ATTACHMENT
 MOUNTS TO MITSUBISHI #MAF-S150 NC
 MACHINING CENTER
 GEAR RATIO 1.0 TO 1.0
 MAX. GEAR CAP = 12 HP. PER 100 RPM

DRAWING SCALE 1/8
 96368-300



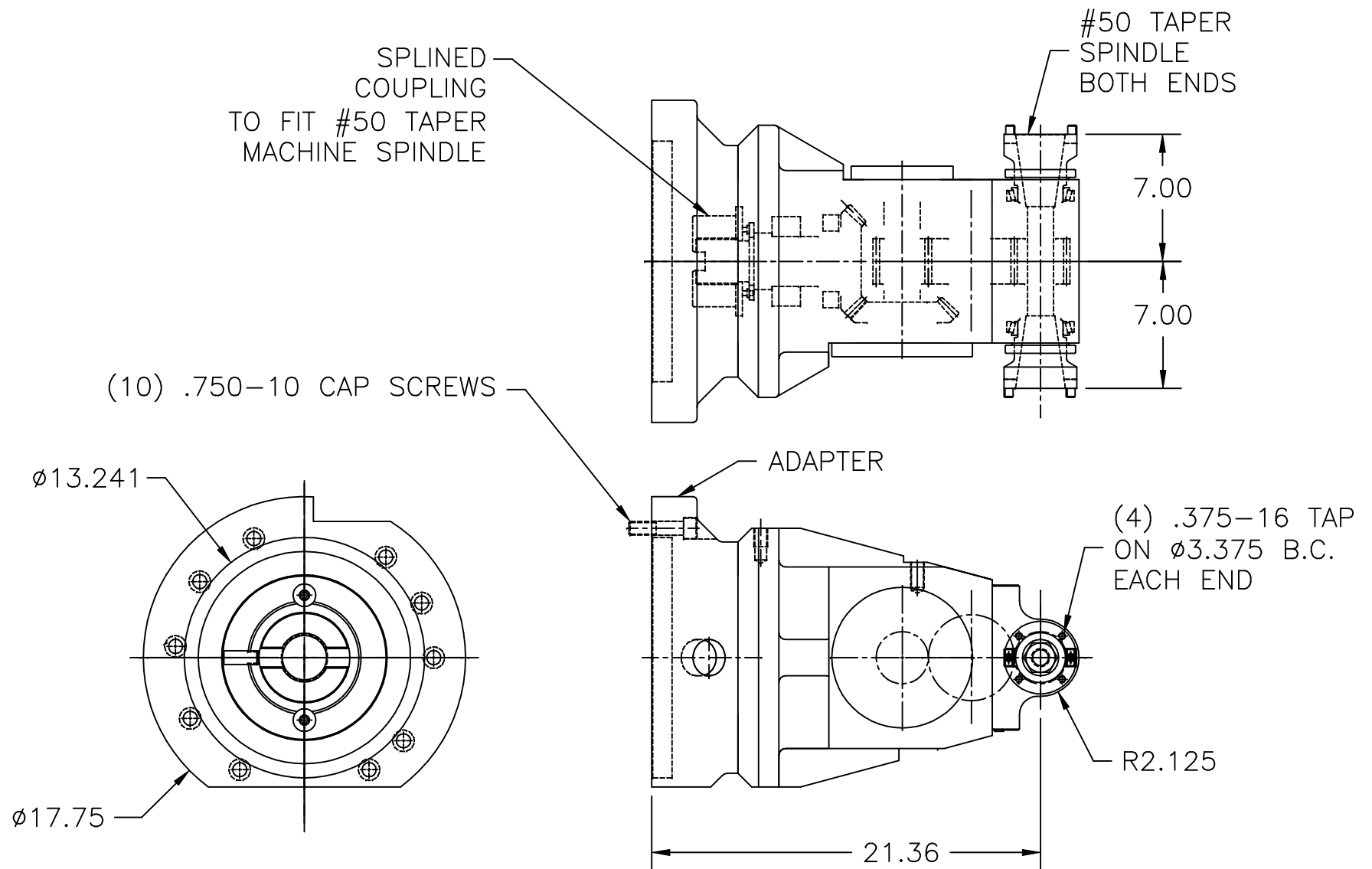




RIGHT ANGLE INDEXABLE ATTACHMENT
MOUNTS HORIZ.
TO GIDDINGS & LEWIS HBM MODEL G60
WITH HIGH SPEED HEADSTOCK
GEAR RATIO = 1.0 TO 1.0
GEAR CAP. :

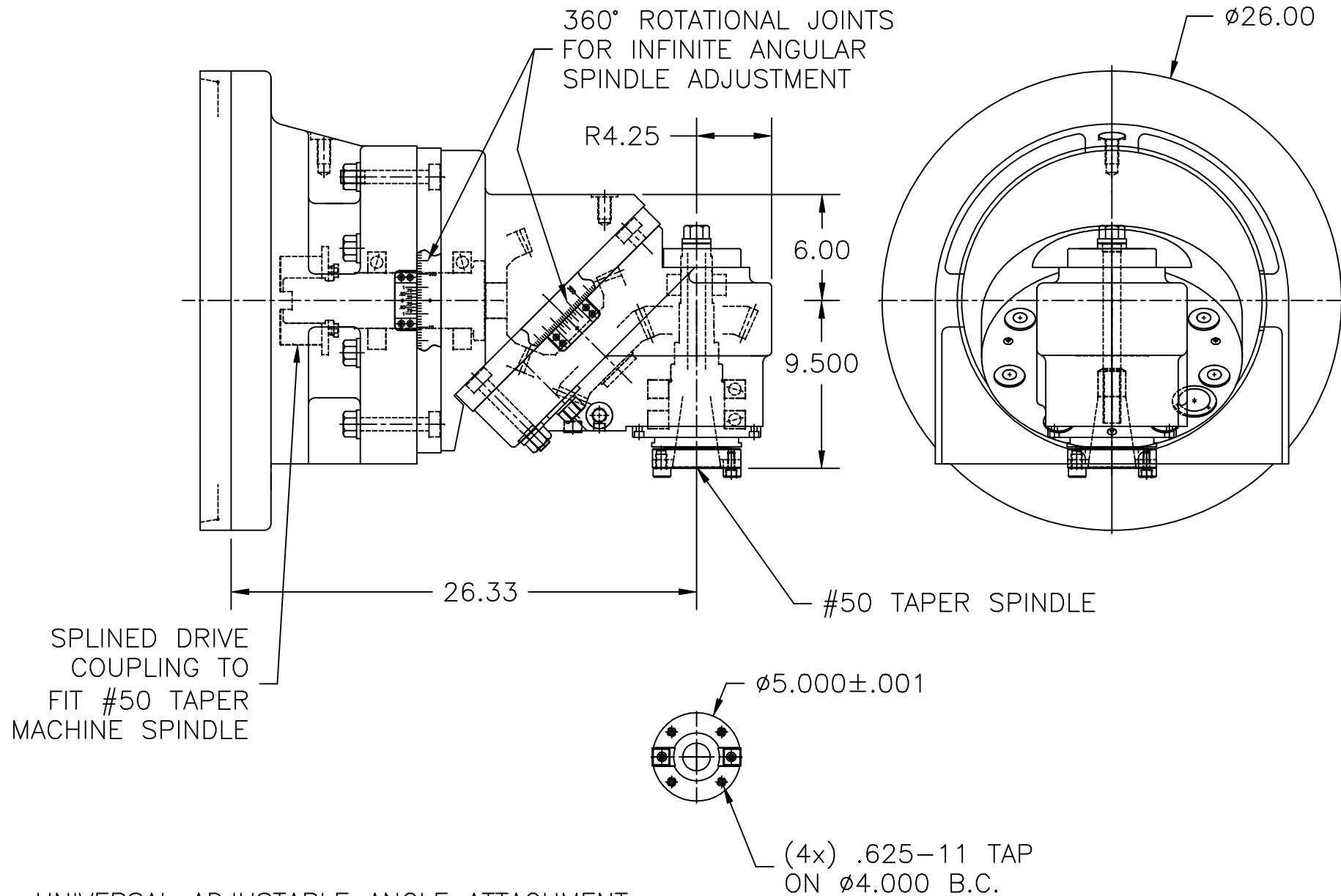
MILLING MODULE = 2.0 HP. PER 100 RPM
DRILL/TAP MODULE = 1.0 HP. PER 100 RPM

DRAWING SCALE 1/8
201341-300



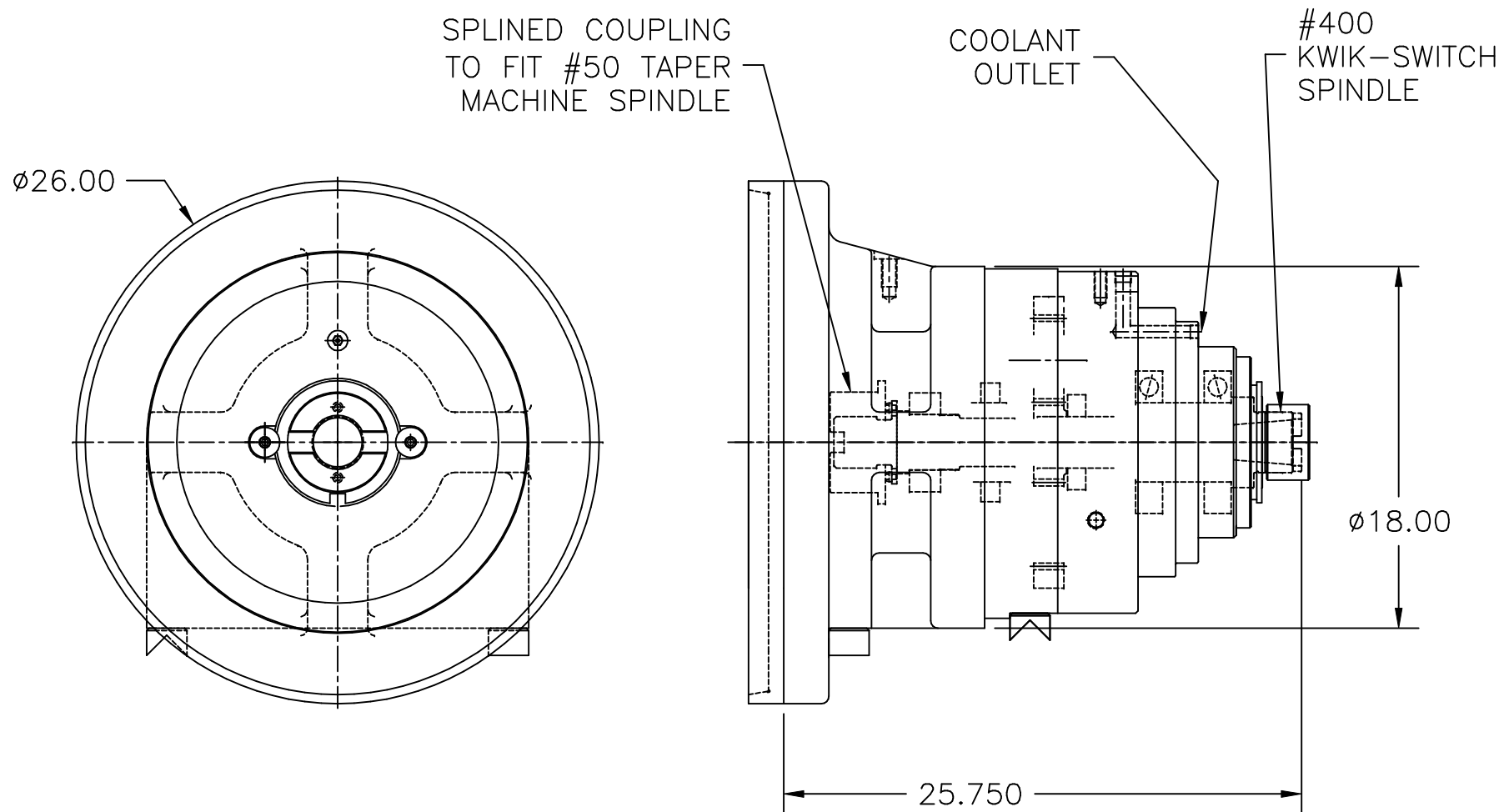
RIGHT ANGLE ATTACHMENT
MOUNTS HORIZ.
TO GIDDINGS & LEWIS HBM
GEAR RATIO = 1.0 TO 1.0
GEAR CAP. = 8.5 HP PER 100 RPM.

DRAWING SCALE 1/8
202138-300



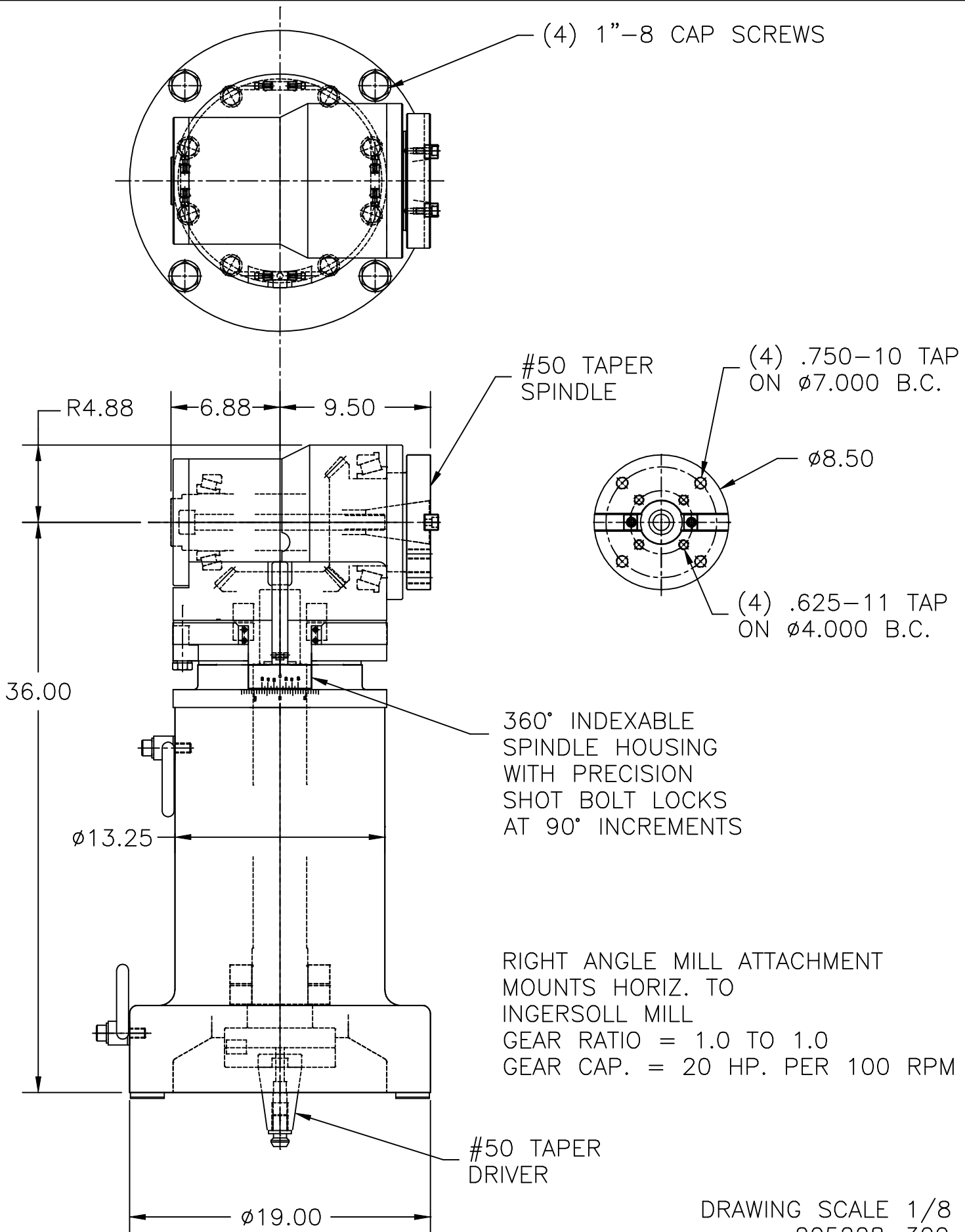
UNIVERSAL ADJUSTABLE ANGLE ATTACHMENT
MOUNTS HORIZ.
TO GIDDINGS & LEWIS HBM WITH AUTO LATCH PLATE
GEAR RATIO = 1.0 TO 1.0
GEAR CAP. = 18.0 HP PER 100 RPM

DRAWING SCALE 1/8
202381-300

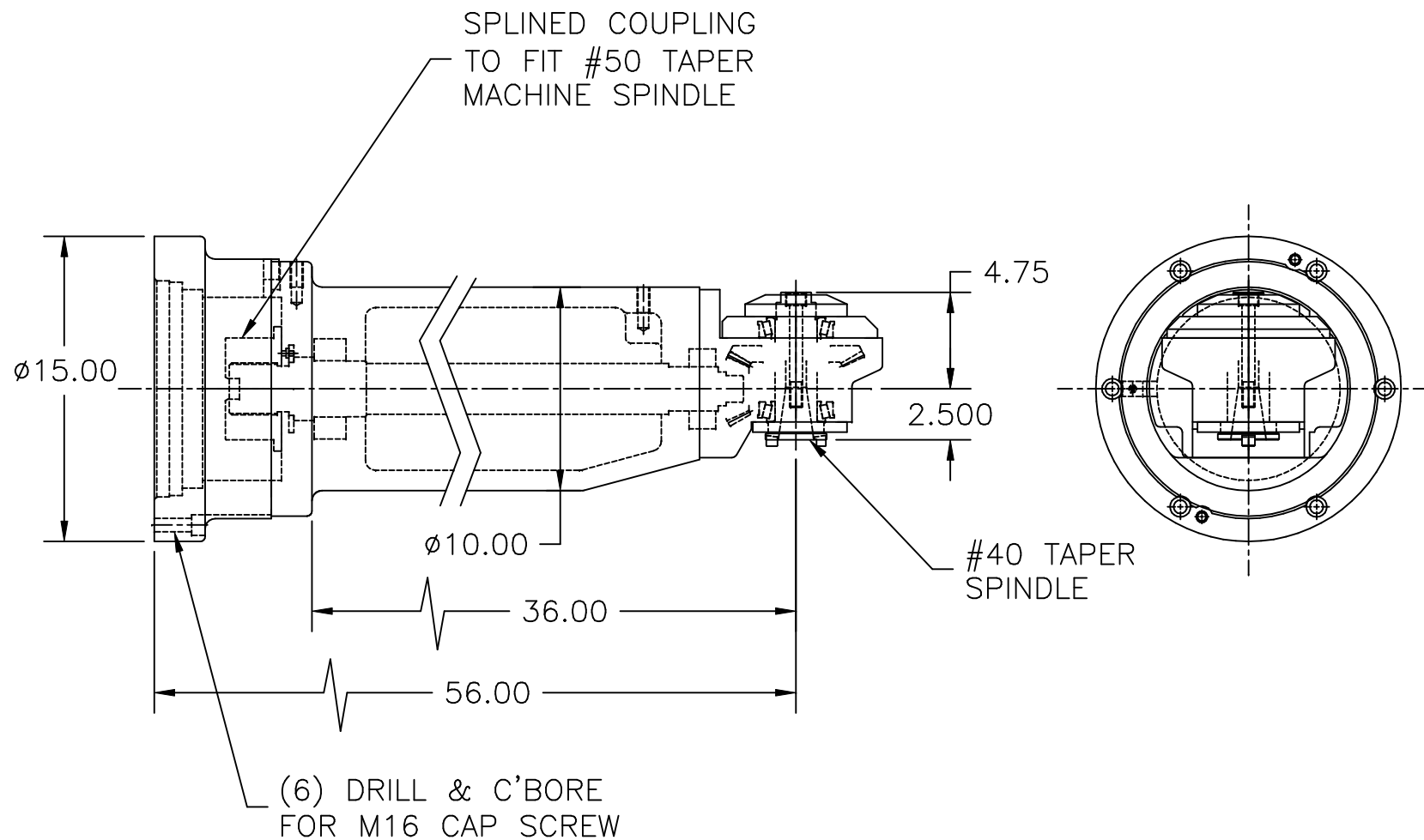


SPEEDER ATTACHMENT
 MOUNTS HORIZ.
 TO GIDDINGS & LEWIS RAM TYPE
 MACHINING CENTER
 WITH AUTO LATCH PLATE
 GEAR RATIO = 1.0 TO 4.0 INCREASE
 GEAR CAP. = 18.0 HP PER 100 RPM OUTPUT
 MAX SPEED = 3200 RPM OUTPUT

DRAWING SCALE 1/8
 203105-300

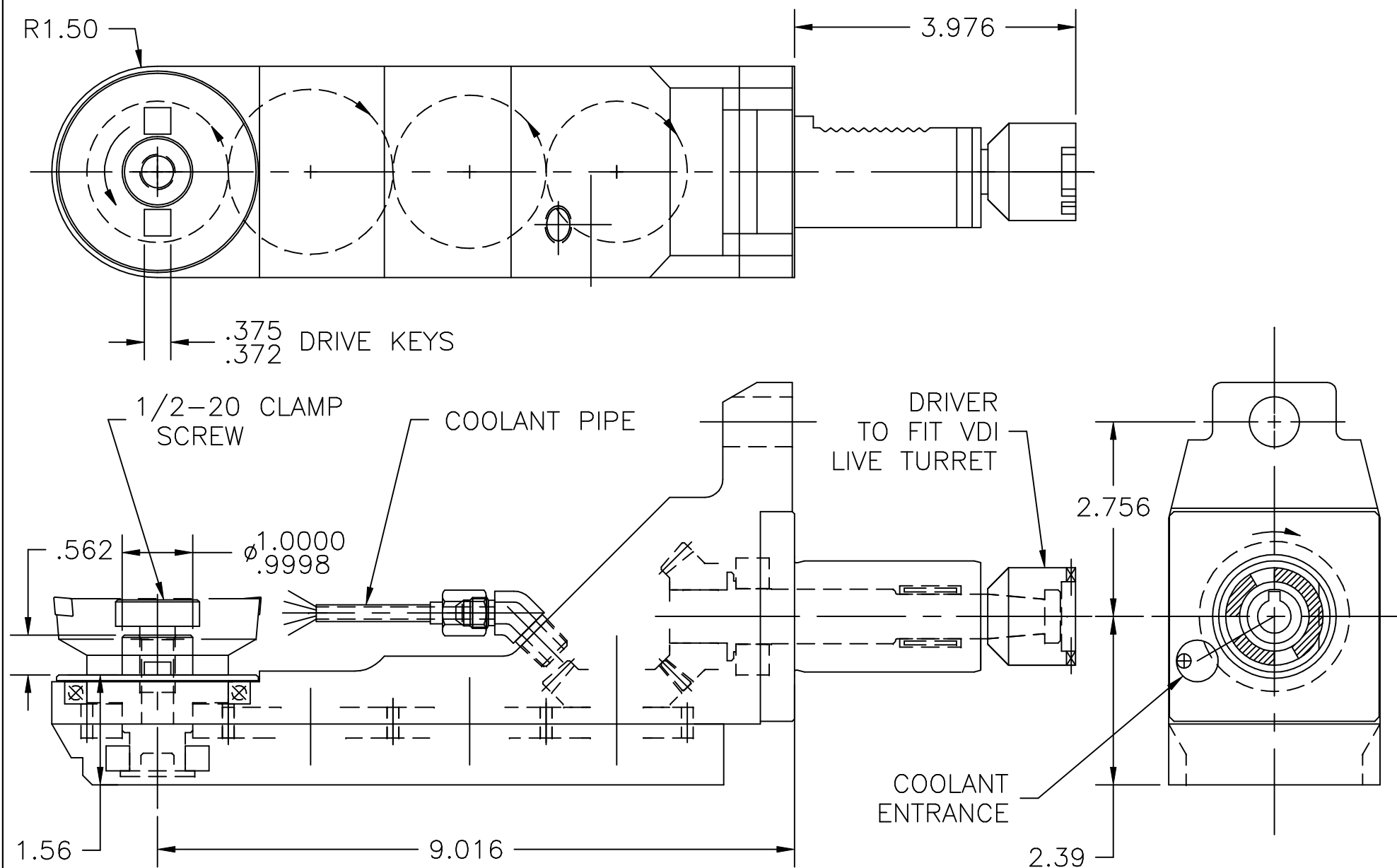


DRAWING SCALE 1/8
205228-300



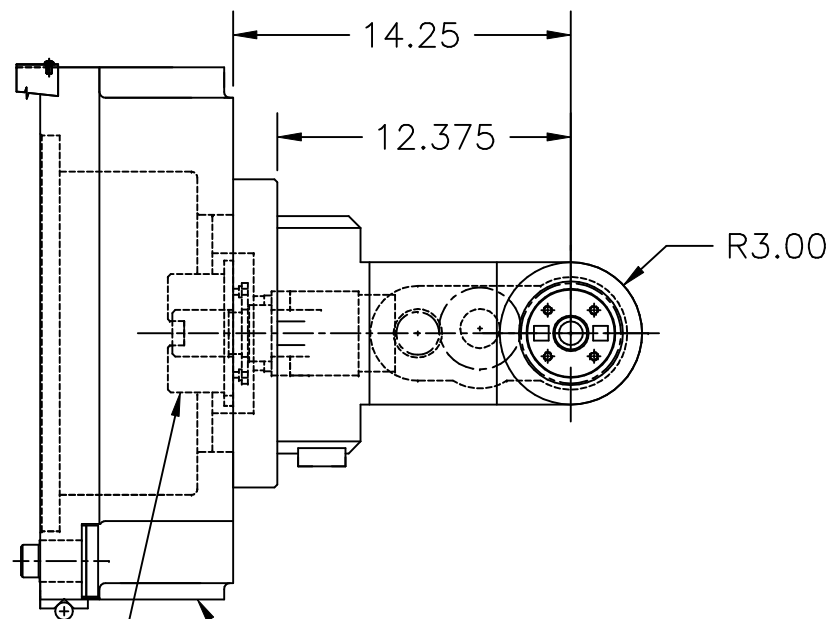
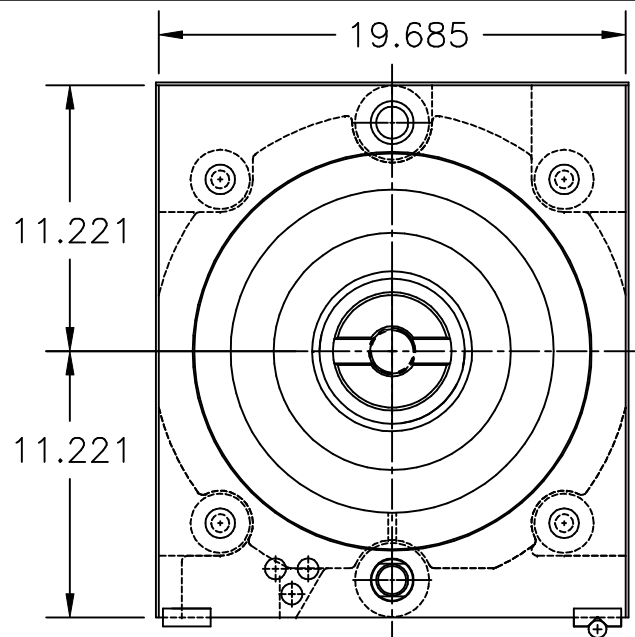
RIGHT ANGLE ATTACHMENT
MOUNTS HORIZ.
TO KURAKI KBT13E-A MACHINING CENTER
GEAR RATIO = 1.0 TO 0.5 REDUCTION
GEAR CAP. = 5.0 HP. PER 100 RPM INPUT

DRAWING SCALE 1/8
205278-300



RIGHT ANGLE ATTACHMENT
MOUNTS HORIZONTALLY TO OKUMA L470M
WITH LIVE VDI TURRET
GEAR RATIO = 1.0 TO 1.0
GEAR CAP. = 0.6 HP. PER 100 RPM OUTPUT

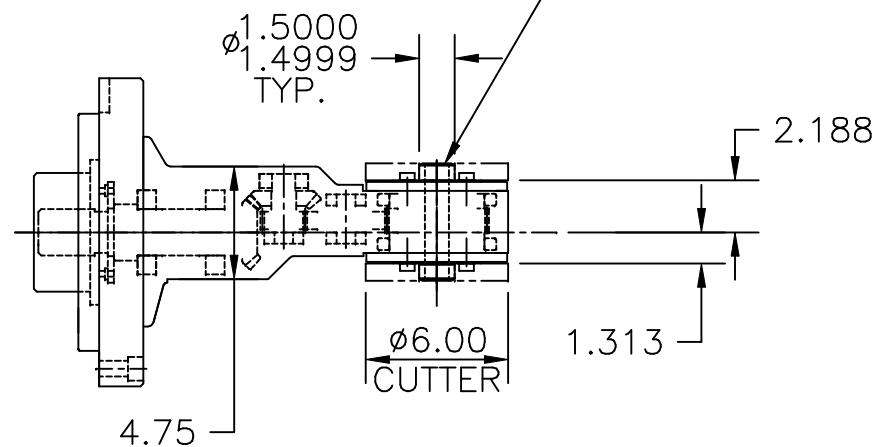
DRAWING SCALE 1/2
206164-300



SPLINED DRIVE
COUPLING
TO FIT #50 TAPER
MACHINE SPINDLE

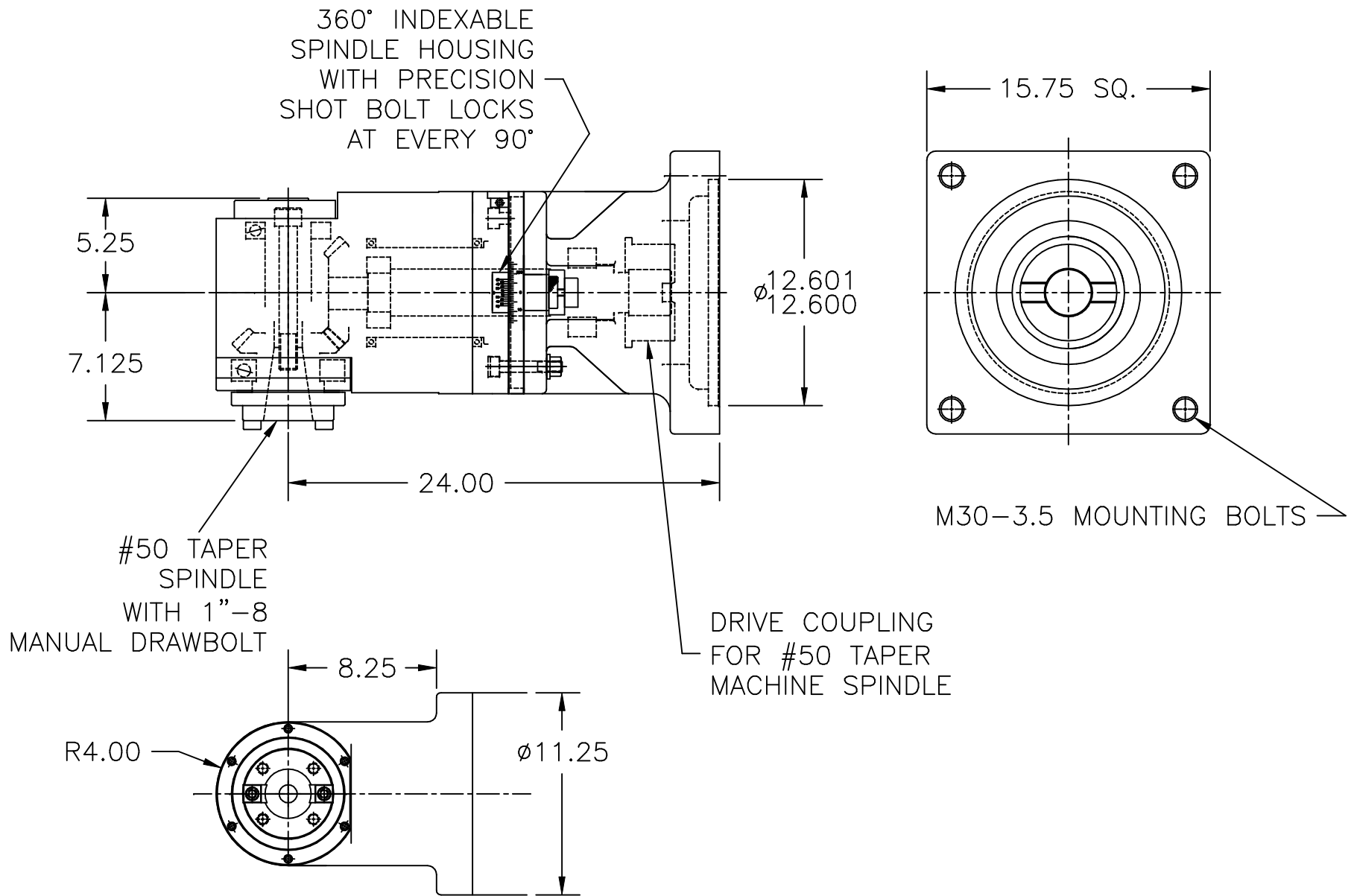
ADAPTER TO SUIT
MACHINE

DOUBLE ENDED
SPINDLE



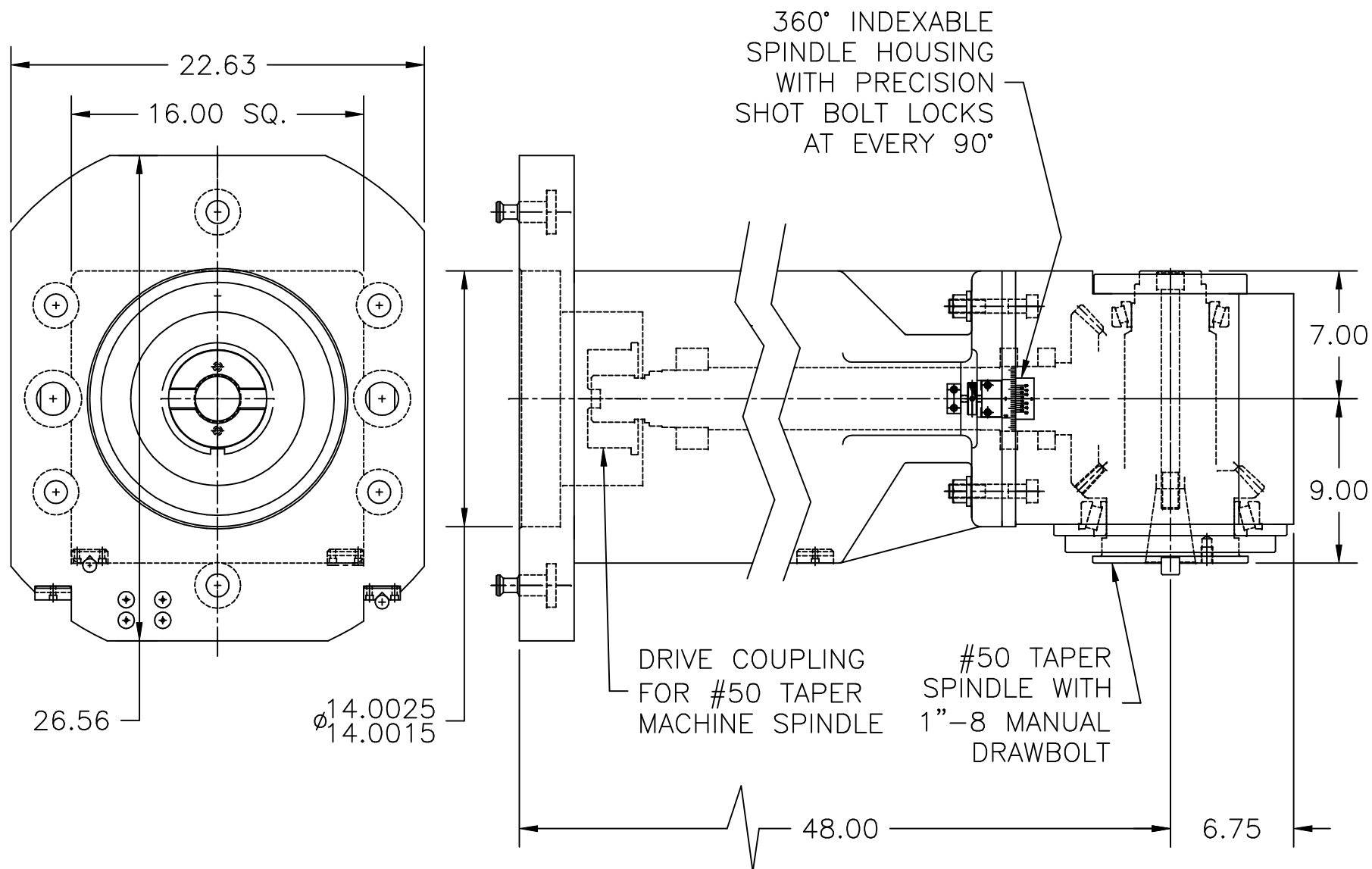
RIGHT ANGLE MILLING ATTACHMENT
MOUNTS HORIZ.
TO GIDDINGS & LEWIS HBM
GEAR RATIO = 1.0 TO .43 REDUCTION
GEAR CAP. = 1.9 HP. PER 100 RPM INPUT
= 4.4 HP. PER 100 RPM OUTPUT

DRAWING SCALE 1/8
206241-300



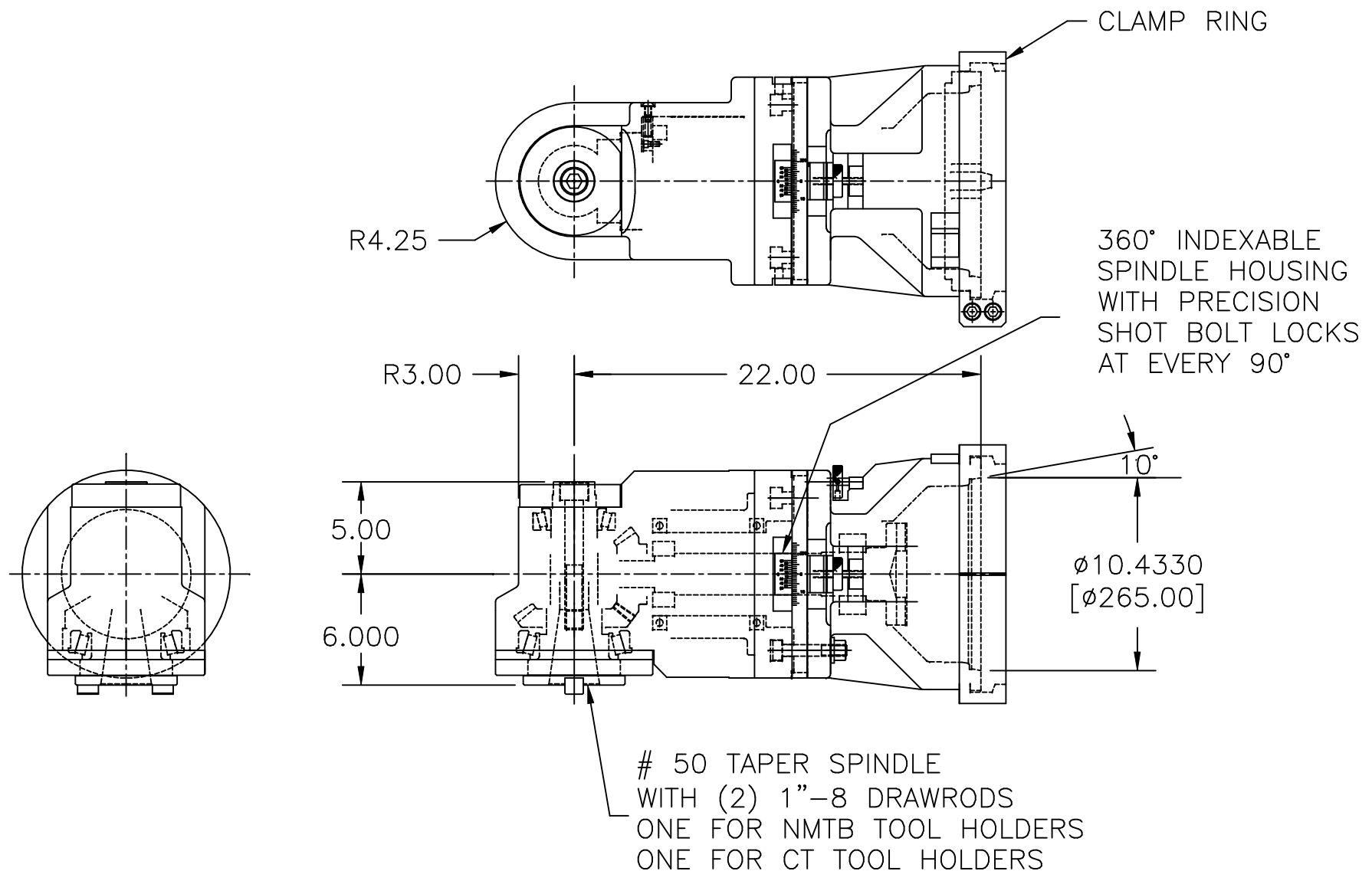
RIGHT ANGLE ATTACHMENT
MOUNTS HORIZ.
TO MANSINI BORING MILL
GEAR RATIO = 1.0 TO 1.0
GEAR CAP. = 12 HP. PER 100 RPM

DRAWING SCALE 1/8
206245-300-01



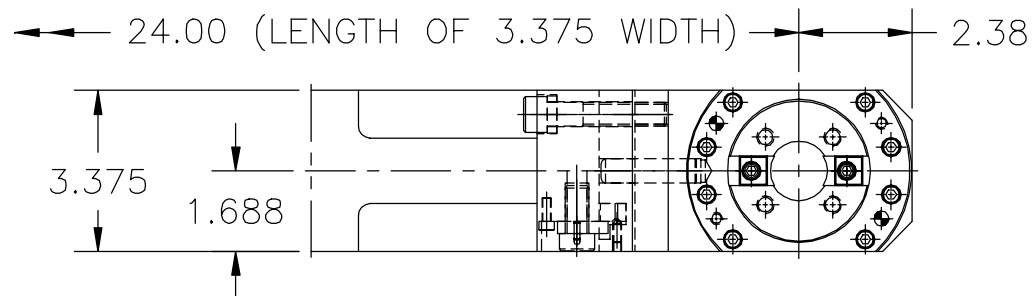
RIGHT ANGLE INDEXABLE ATTACHMENT
 MOUNTS HORIZ. TO GIDDINGS AND LEWIS
 HBM WITH AUTO LATCH PLATE
 GEAR RATIO = 1.00 TO 1.00
 GEAR CAP. = 38 H.P. PER 100 RPM
 NOT TO EXCEED 100 H.P.

DRAWING SCALE 1/8
 206316-300-01

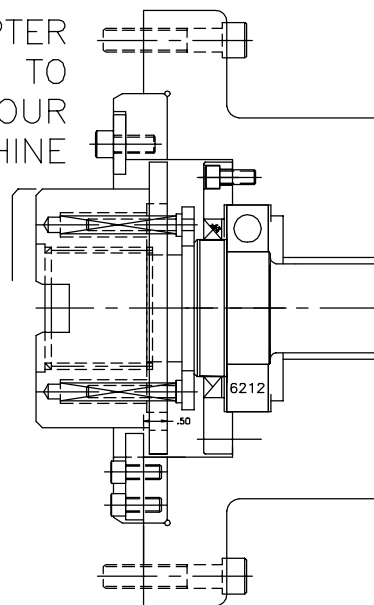


RIGHT ANGLE INDEXABLE ATTACHMENT
MOUNTS HORIZ. TO SCHARMANN HBM
GEAR RATIO = 1.00 TO .75 REDUCTION
GEAR CAP. = 8.7 HP. PER 100 RPM INPUT
(11.6 HP. PER 100 RPM OUTPUT)

DRAWING SCALE 1/8
207183–300–01

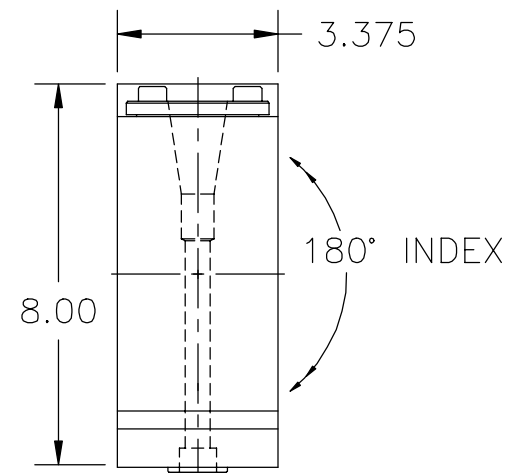
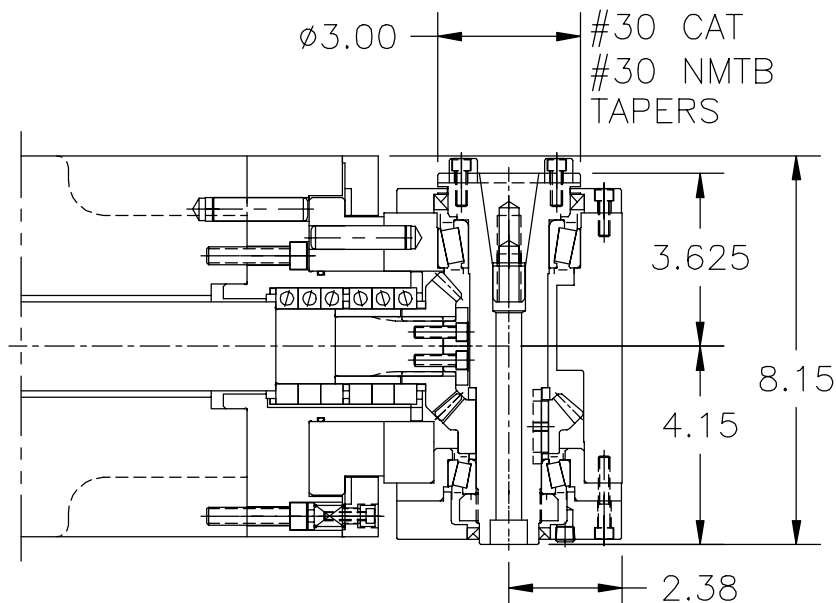


ADAPTER
MADE TO
FIT YOUR
MACHINE



ø3.00

#30 CAT
#30 NMTB
TAPERS



NOTES:

HEAD MOUNTS HORIZONTAL TO AN HBM

HEAD RATIO = 1.00 TO 1.00

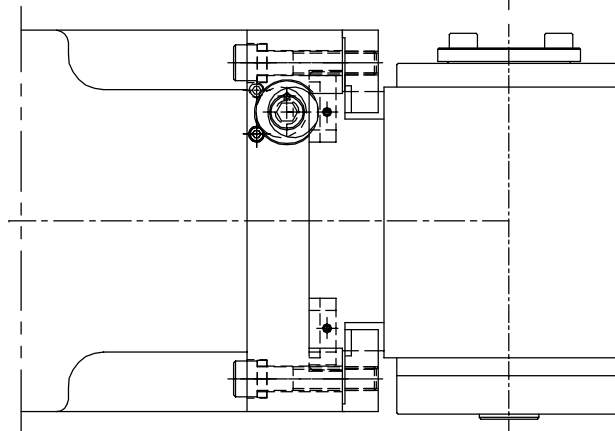
MAX. INPUT SPEED = 1500 RPM

MAX. GEAR CAPACITY = 2.0 HP PER 100 RPM

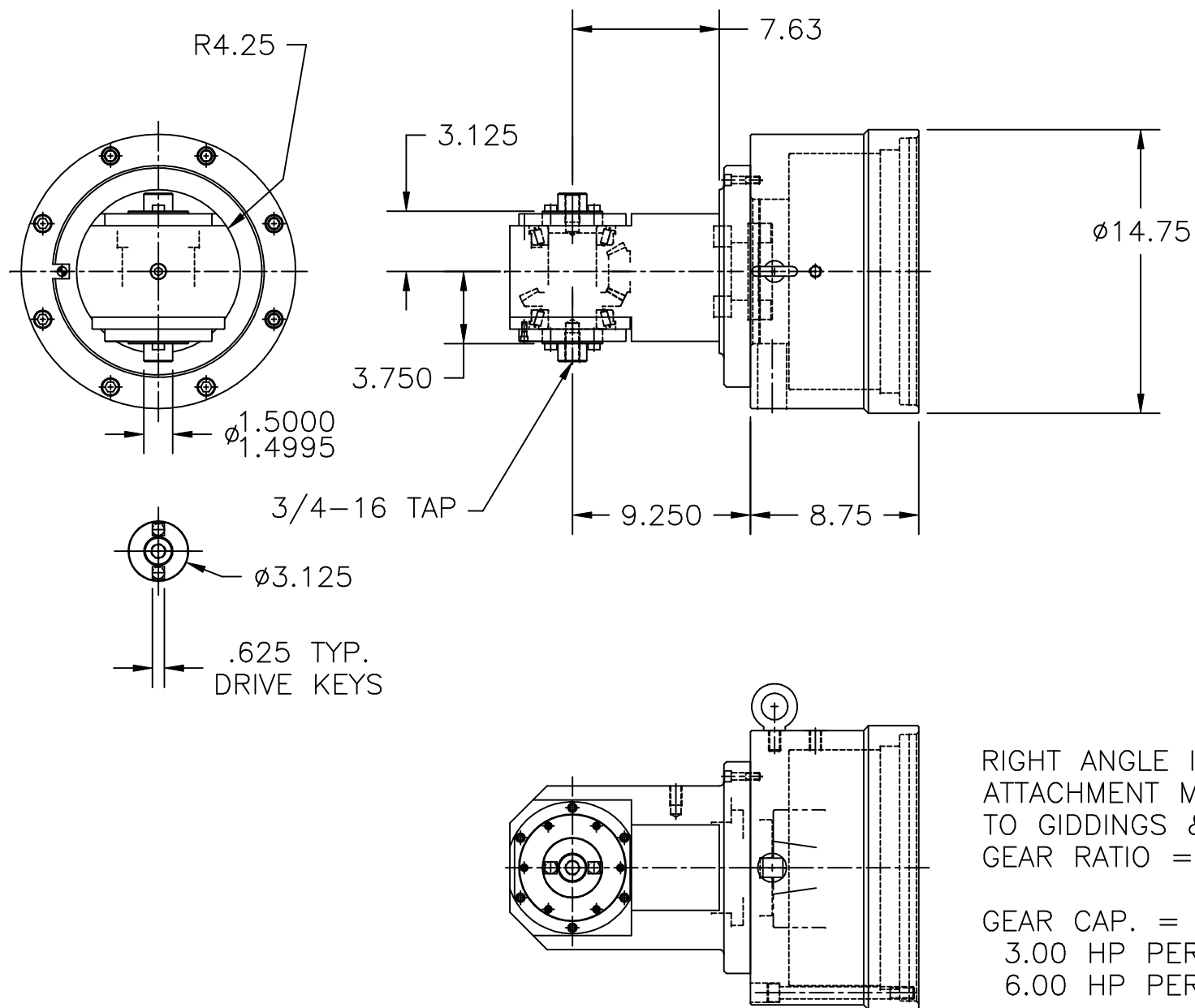
DUCTILE IRON HOUSING

STEEL SPINDLE HEAD & SWIVEL BLOCK

SPLASH OIL LUBRICATION ~ MOBIL SHC 624



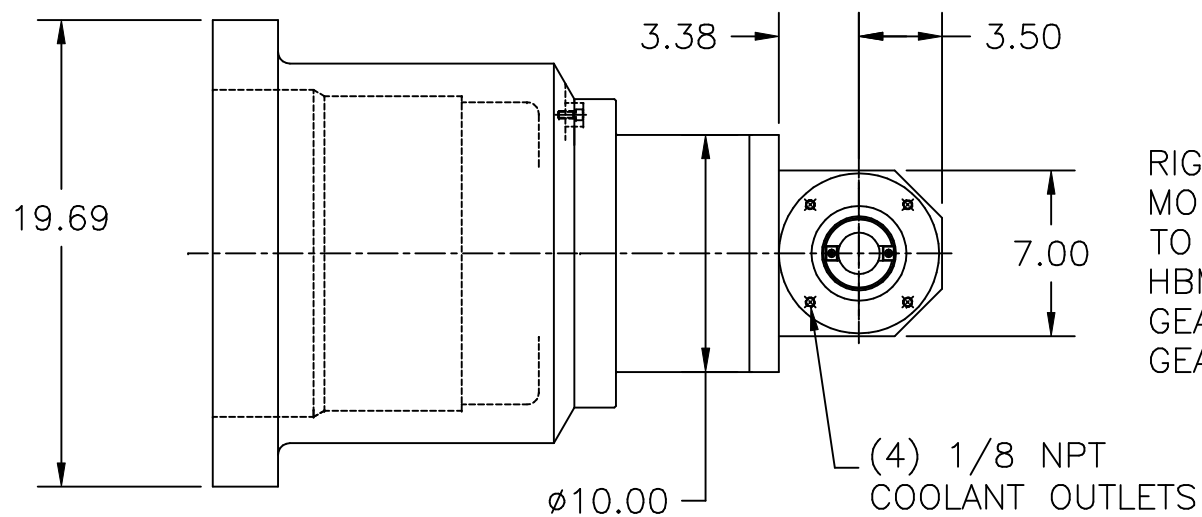
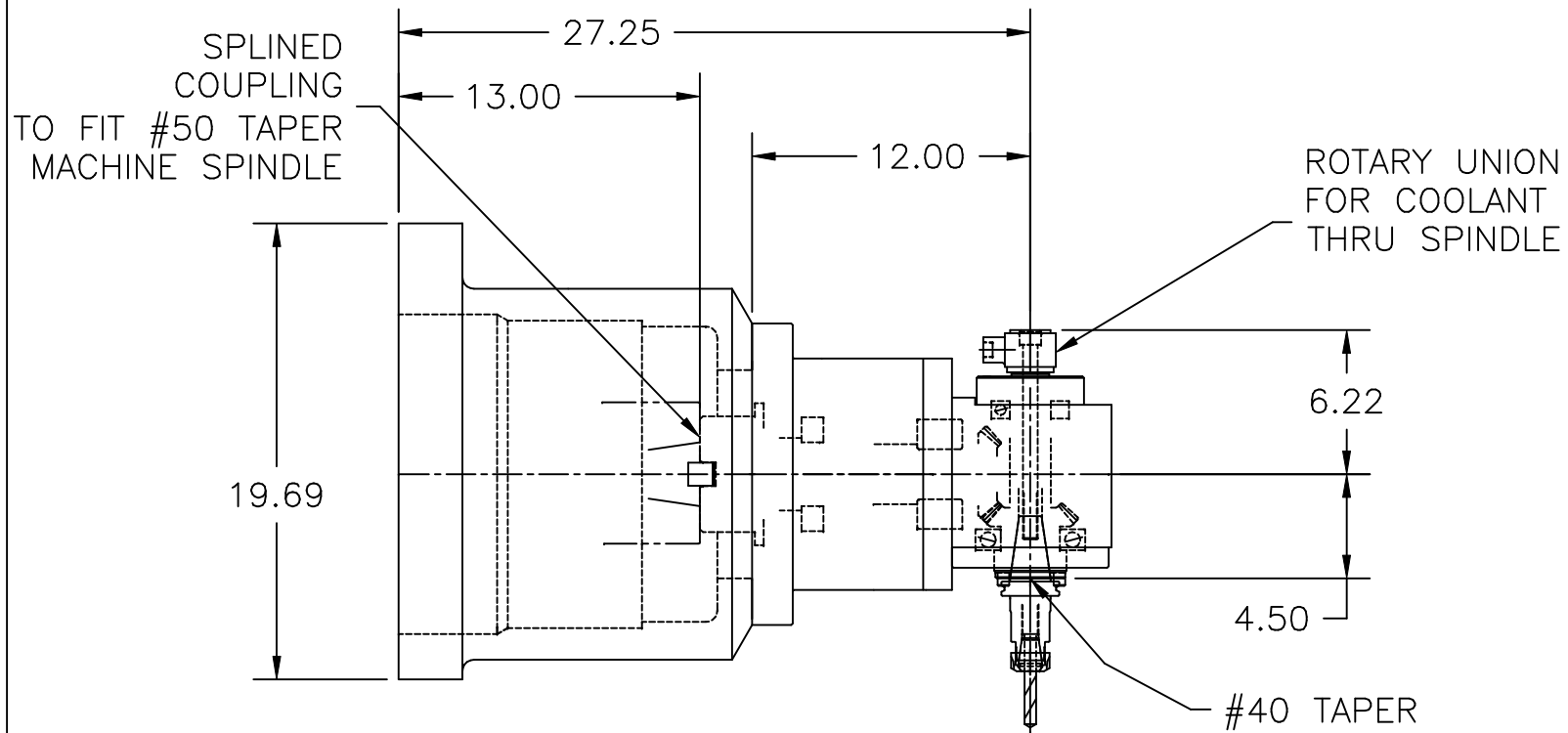
DRAWING SCALE 1/4
P-021013



RIGHT ANGLE INDEXABLE
ATTACHMENT MOUNTS HORIZ.
TO GIDDINGS & LEWIS HBM
GEAR RATIO = 1.00 TO 0.50
REDUCTION

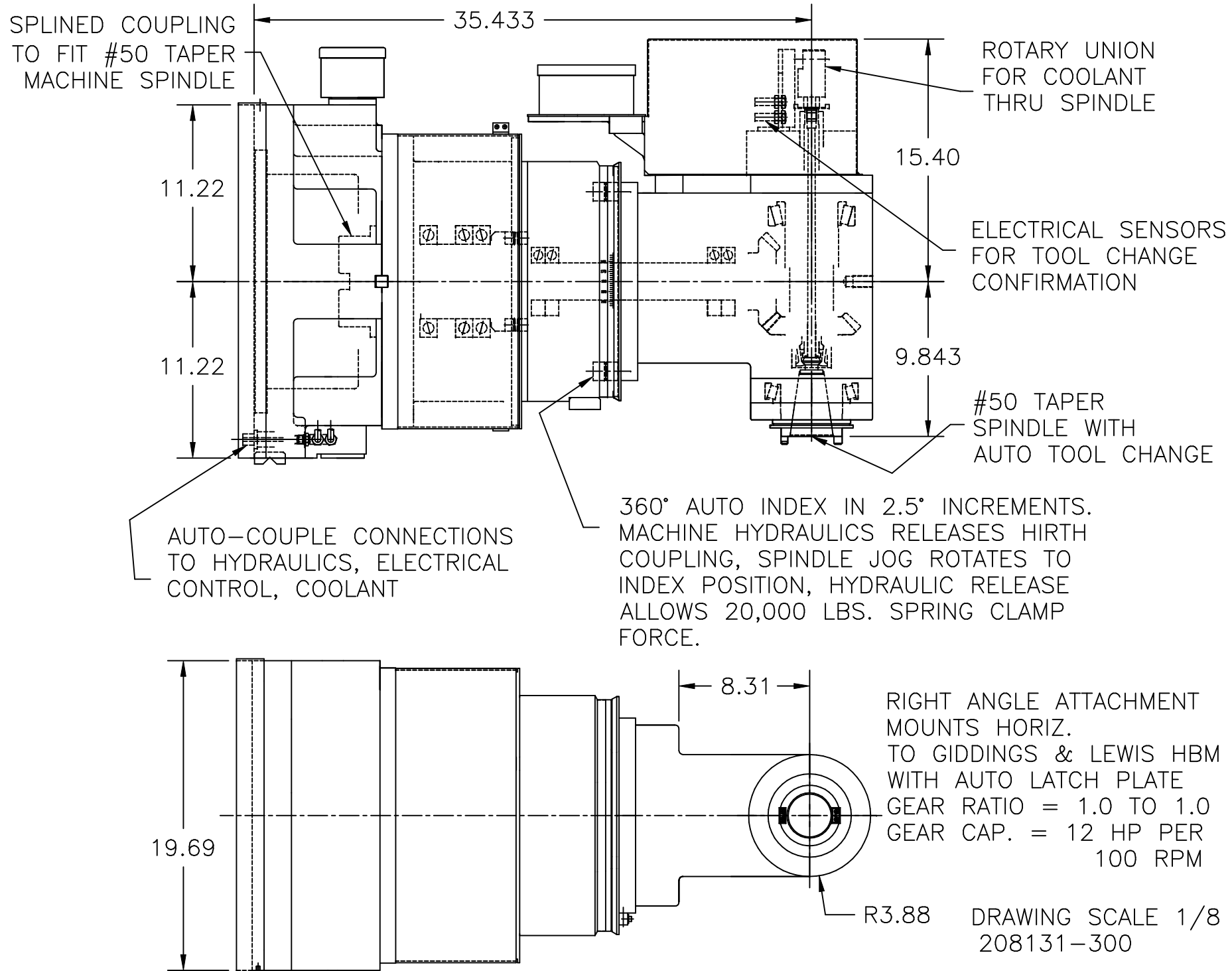
GEAR CAP. =
3.00 HP PER 100 RPM INPUT
6.00 HP PER 100 RPM OUTPUT

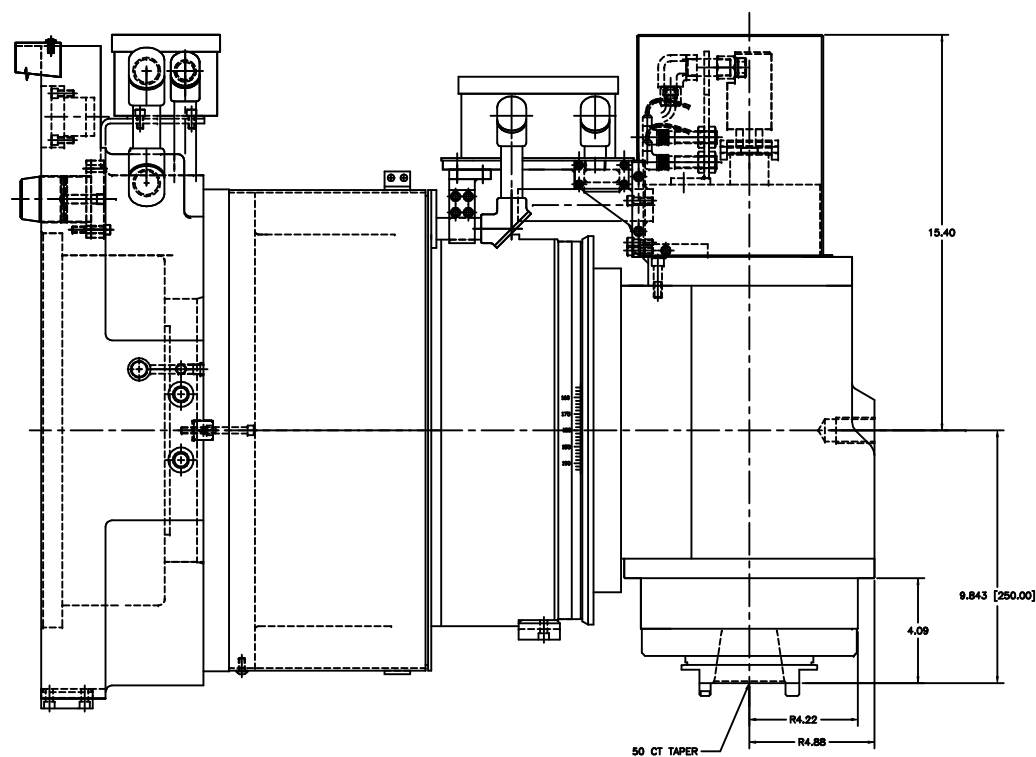
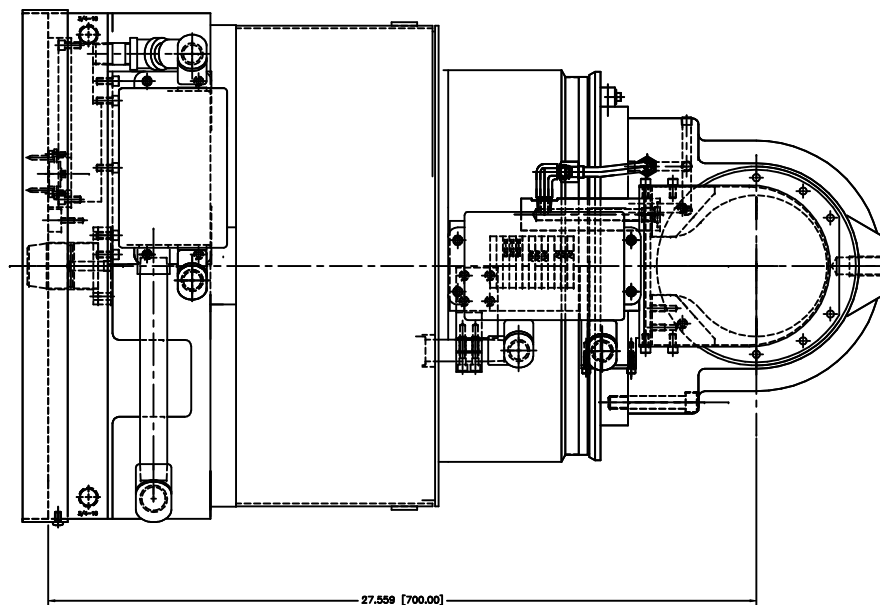
DRAWING SCALE 1/8
208102-300



RIGHT ANGLE ATTACHMENT
MOUNTS HORIZ.
TO GIDDINGS & LEWIS
HBM 480
GEAR RATIO = 1.00 TO 1.00
GEAR CAP. = 4.50 HP.
PER 100 RPM

DRAWING SCALE 1/8
208121-300

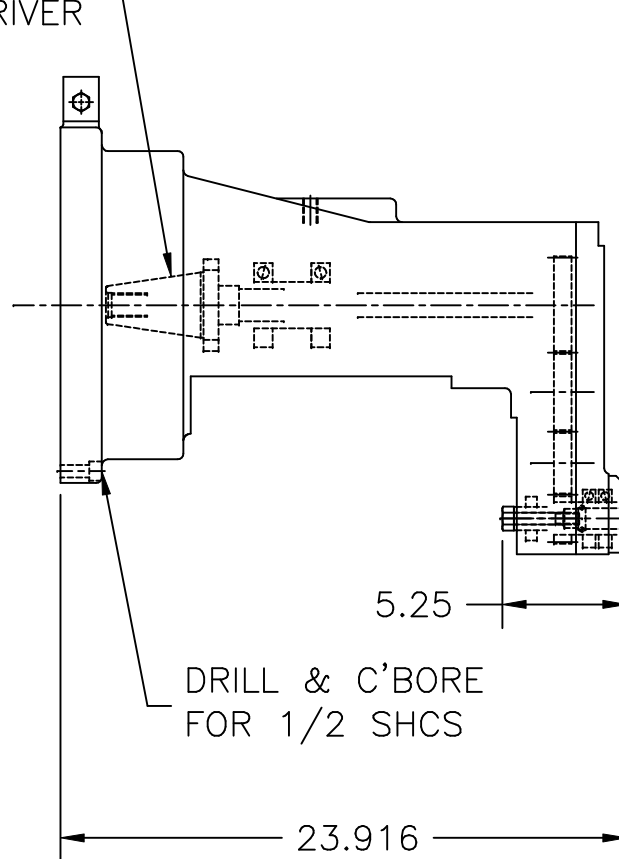




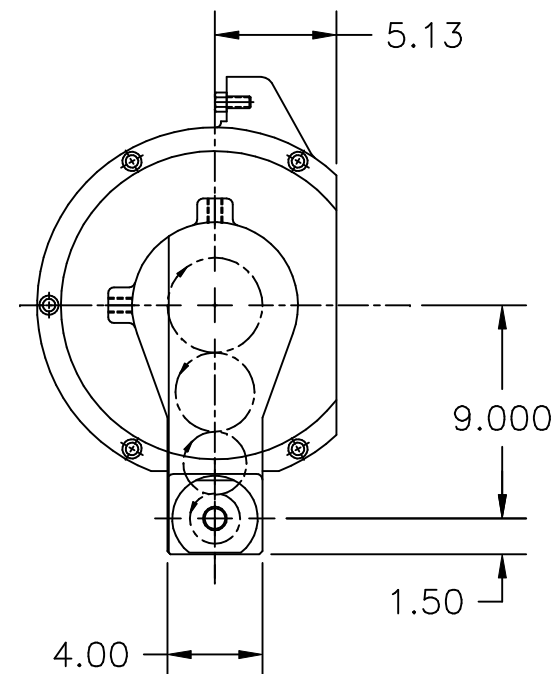
RIGHT ANGLE ATTACHMENT
MOUNTS HORIZ.
TO GIDDINGS & LEWIS HBM
WITH AUTO LATCH PLATE
GEAR RATIO = 1.0 TO 1.0
GEAR CAP. = 20 HP PER 100 RPM

DRAWING SCALE 1/8
208204-300

#50 TAPER
DRIVER

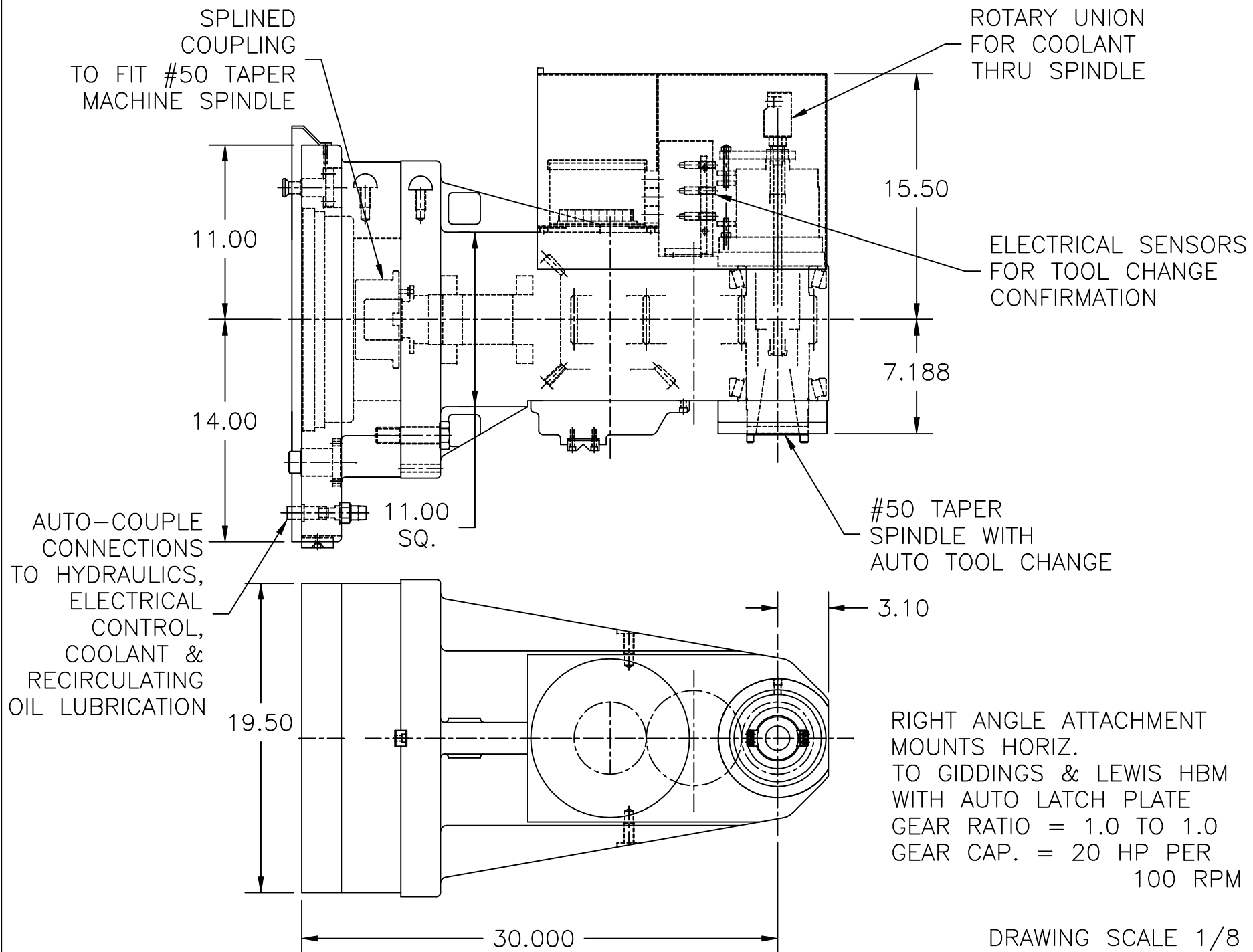


Ø.8750
FOR SPECIAL
PRECISION
TOOL HOLDERS

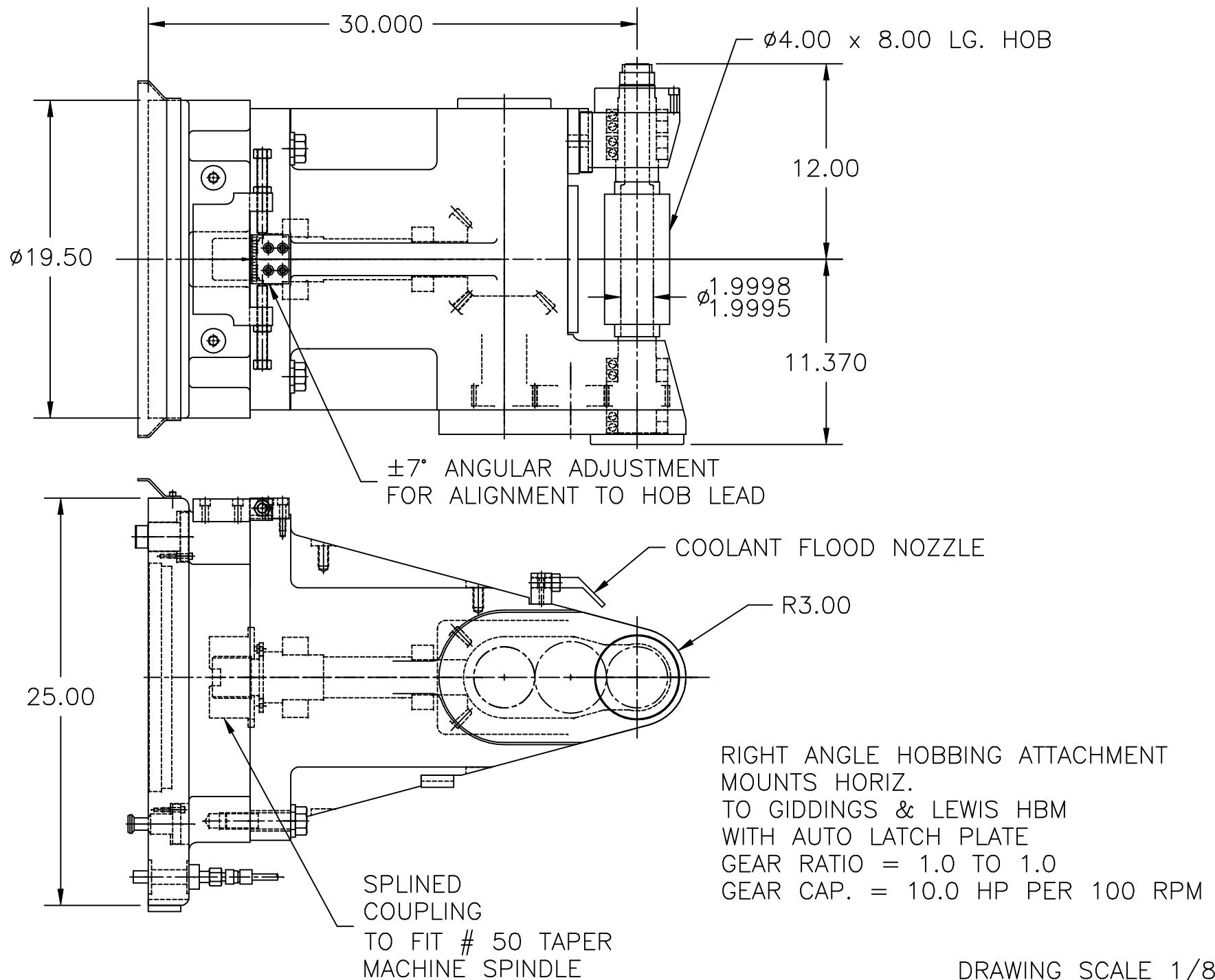


OFFSET MILLING ATTACHMENT
MOUNTS HORIZ.
TO BOHLE HBM
GEAR RATIO = 1.0 TO 2.0 INCREASE
GEAR CAP. = 1.0 HP. PER 100 RPM (OUTPUT)
4000 MAX. RPM OUTPUT

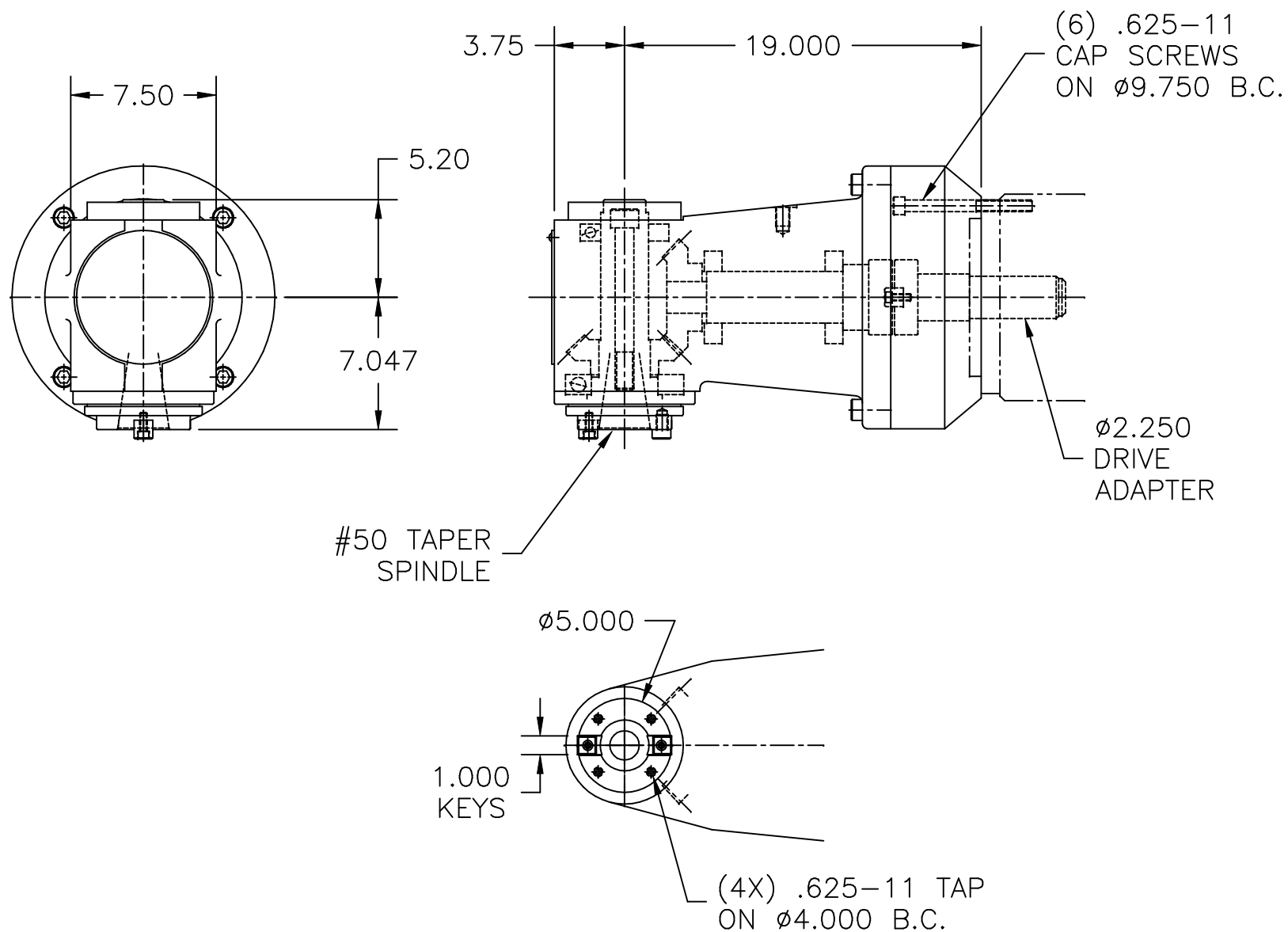
DRAWING SCALE 1/8
K 6494



DRAWING SCALE 1/8
 K8982

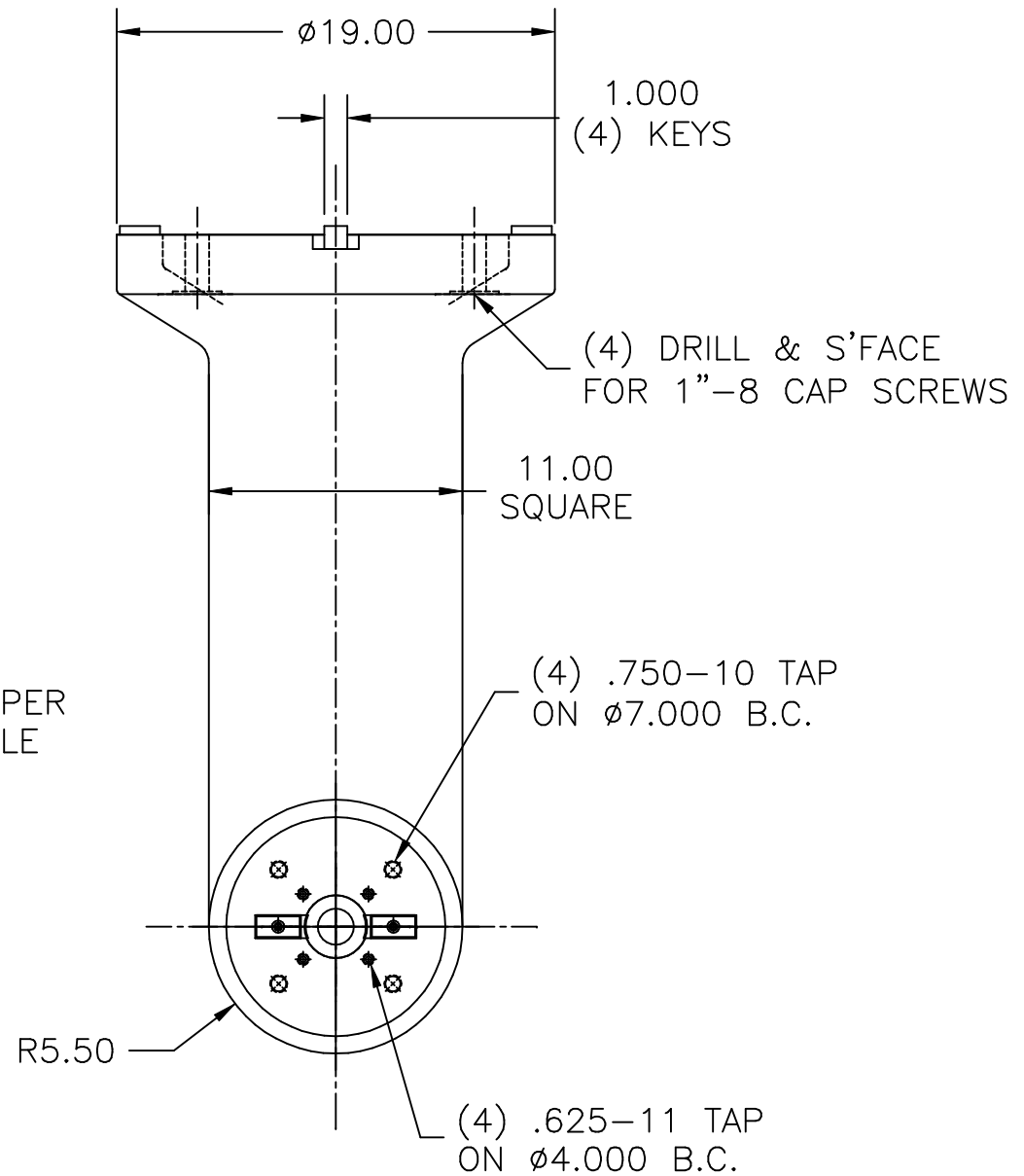
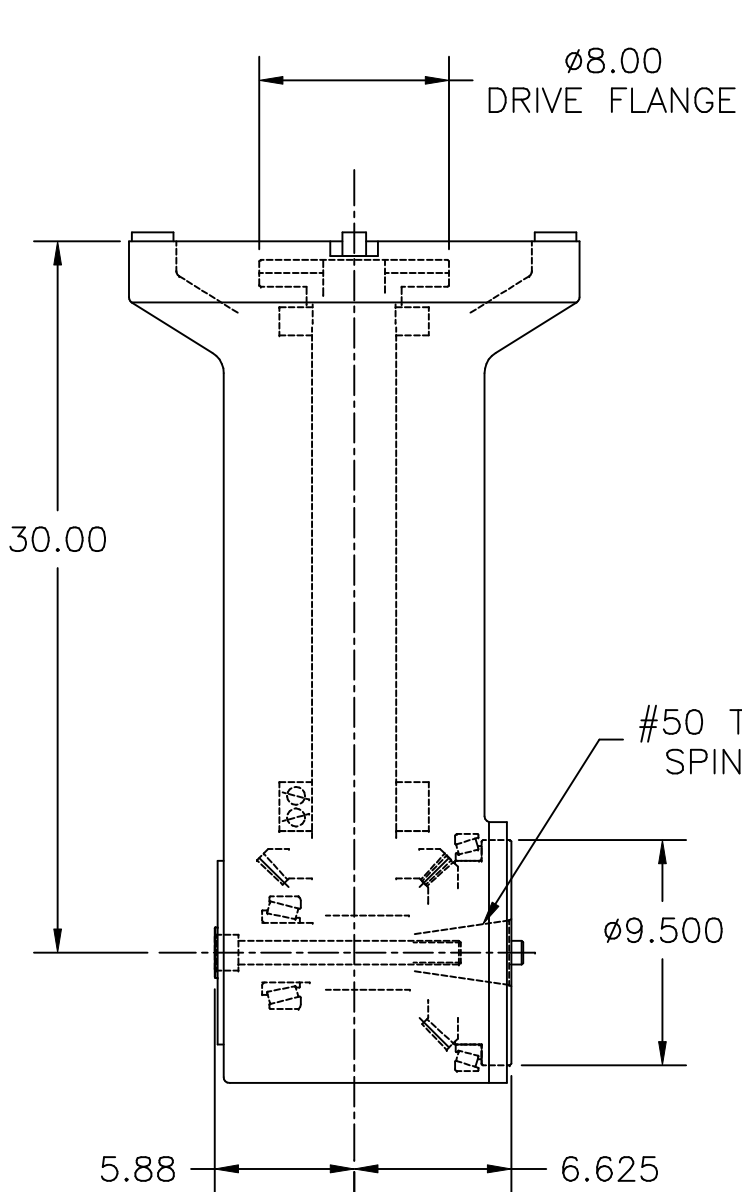


DRAWING SCALE 1/8
K-8983



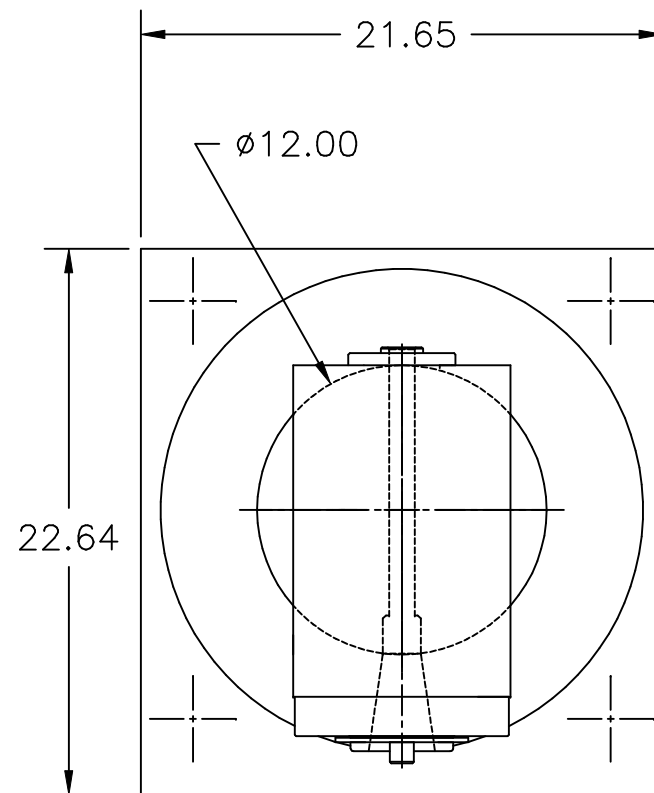
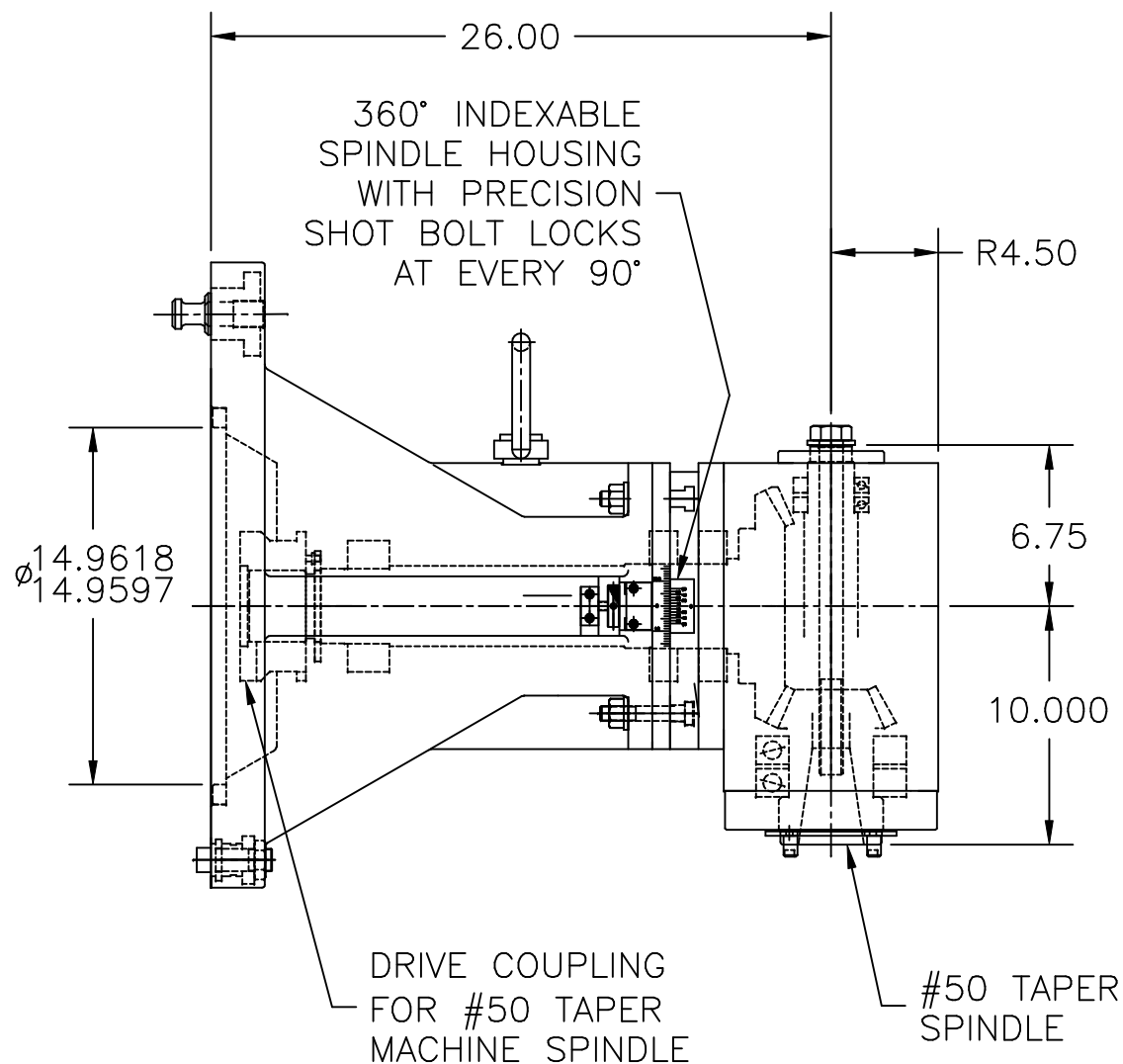
RIGHT ANGLE ATTACHMENT
 MOUNTS HORIZ. TO K & T MODULINE
 GEAR RATIO = 1:1
 GEAR CAP. = 12 HP PER 100 RPM

DRAWING SCALE 1/8
 K-10520



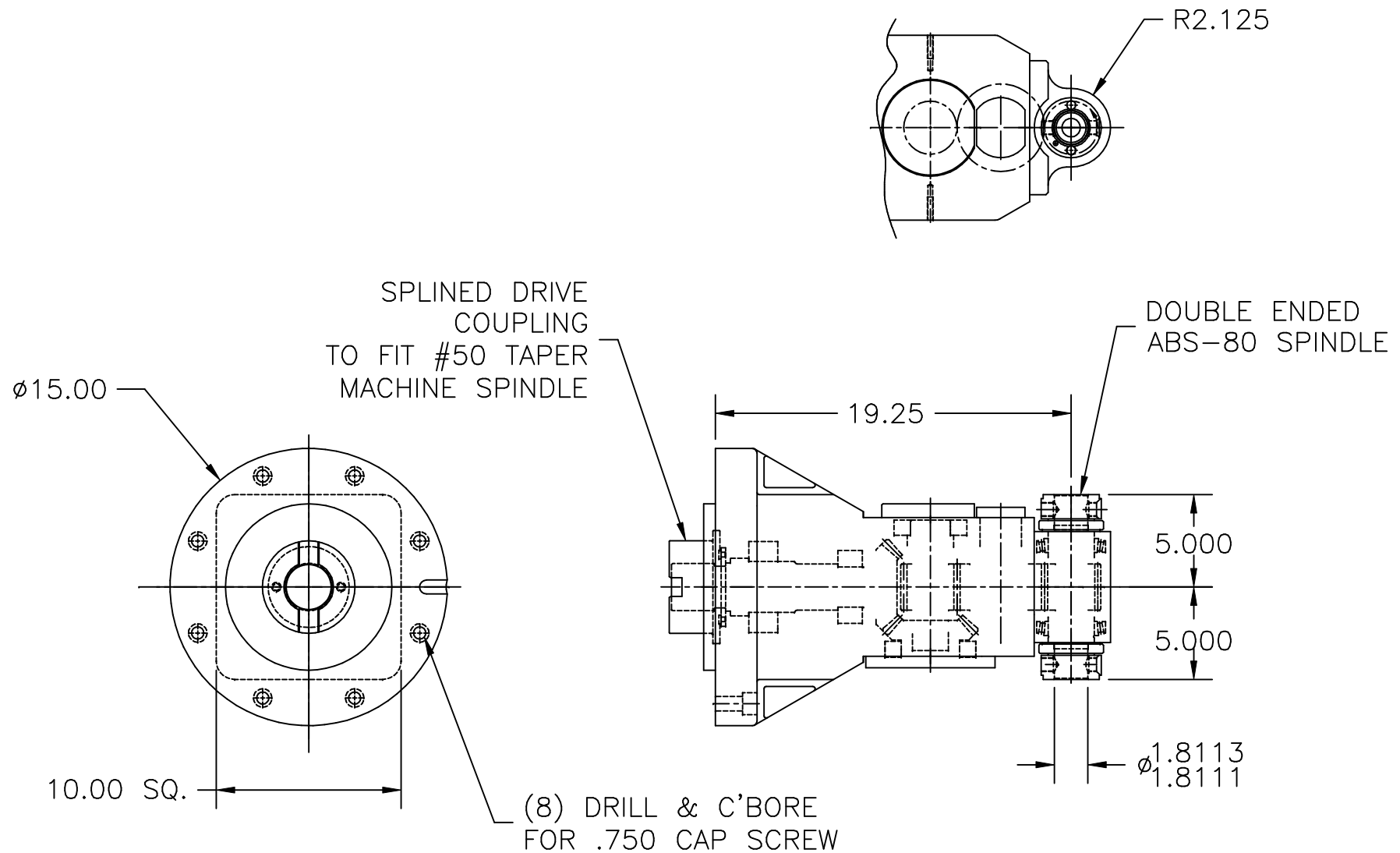
RIGHT ANGLE ATTACHMENT
 MOUNTS HORIZ. TO INGERSOLL MILL
 GEAR RATIO 1:1
 MAX. GEAR CAP = 20 HP. PER 100 RPM

DRAWING SCALE 1/8
 K10673



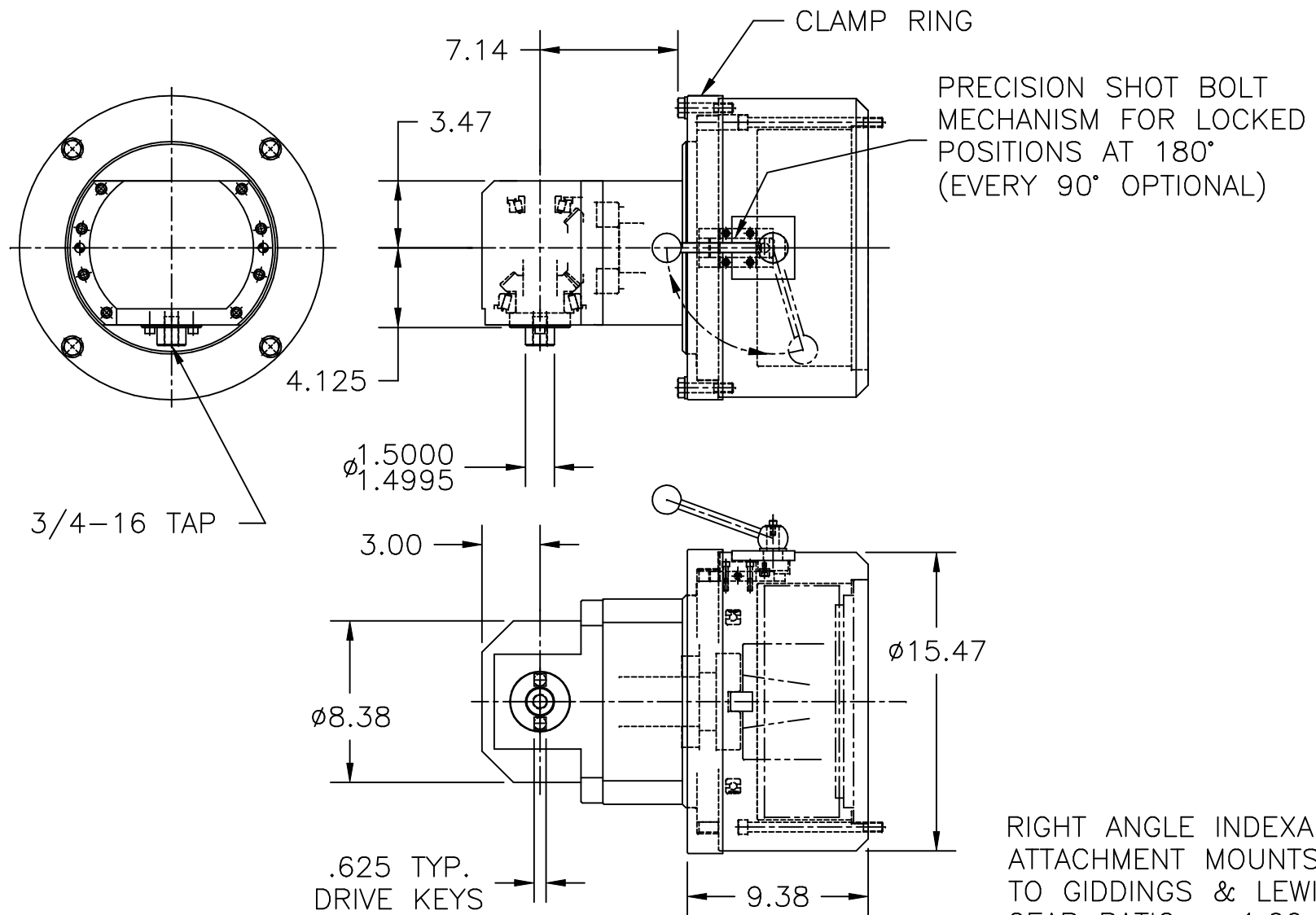
RIGHT ANGLE ATTACHMENT
MOUNTS HORIZ.
TO MITSUBISHI MACHINING CENTER
WITH AUTO LATCH PLATE
GEAR RATIO = 1.0 TO 2.0 INCREASE
GEAR CAP. = 12 HP. PER 100 RPM OUTPUT

DRAWING SCALE 1/8
K-10722



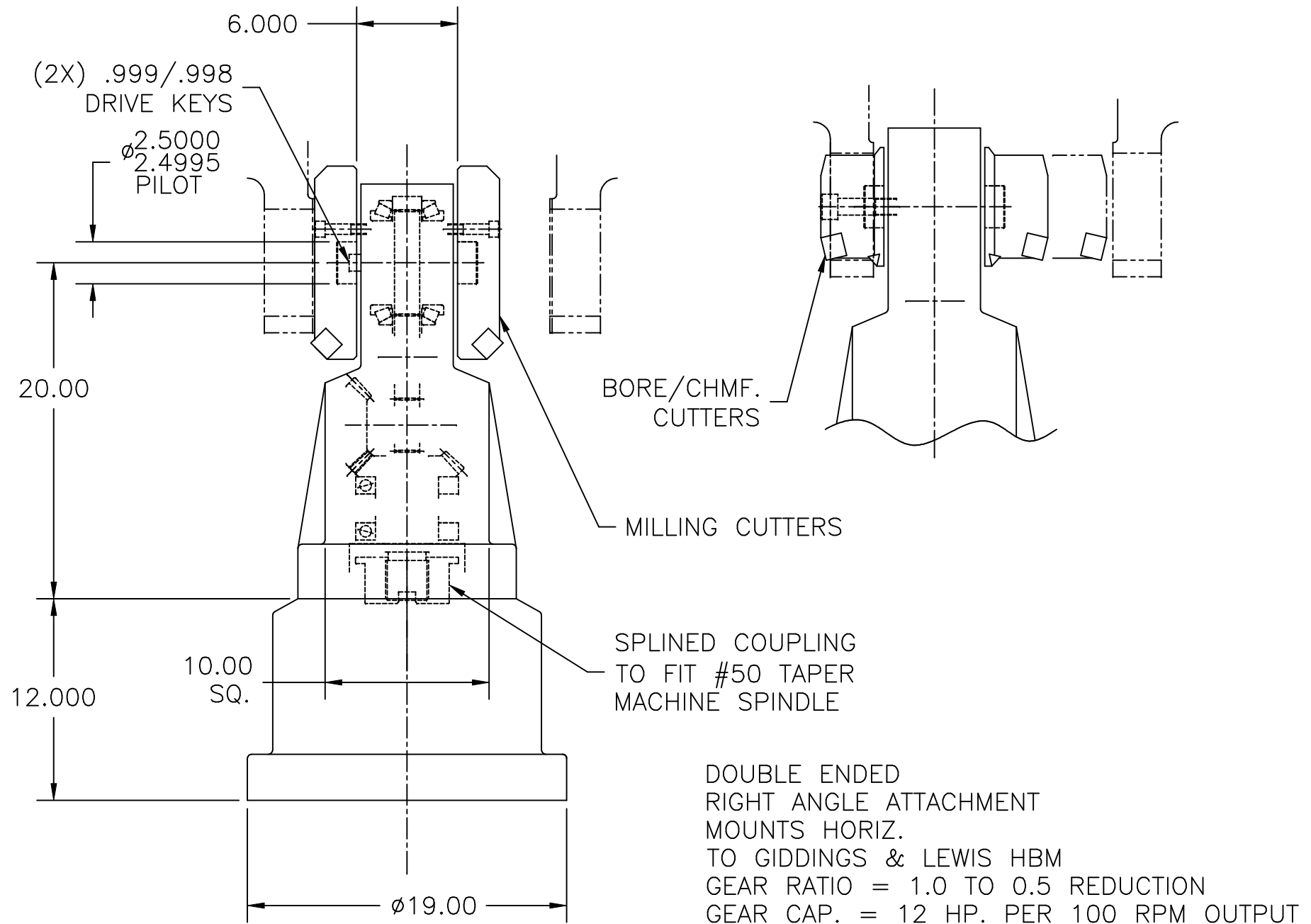
RIGHT ANGLE BORING ATTACHMENT
 MOUNTS HORIZ.
 TO GIDDINGS & LEWIS HBM
 GEAR RATIO = 1.0 TO 1.0
 GEAR CAP. = 8.0 HP. PER 100 RPM

DRAWING SCALE 1/8
 K11468



RIGHT ANGLE INDEXABLE
ATTACHMENT MOUNTS HORIZ.
TO GIDDINGS & LEWIS HBM
GEAR RATIO = 1.00 TO 1.00
GEAR CAP. =
4.75 HP PER 100 RPM

DRAWING SCALE 1/8
P-040707-R1



DRAWING SCALE 1/8
P-060203-R1