

REV. E

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FEDERAL SUPPLY CLASS

RATIONALE

THIS DOCUMENT HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE 5-YEAR REVIEW POLICY.

SHAFT ROTATION-EITHER DIRECTION (SAME REQUIREMENTS APPLY)

APPLIES ONLY WHEN C DIA IS LESS THAN G DIA

INCOMPLETE THREAD MUST NOT GO BEYOND THIS SHOULDER

THREAD T NS PITCH DIA S SEE ALSO FIG. 2

DRILL W THRU 8 HOLES EQUALLY SPACED AND LOCATED WITHIN .010 OF TRUE POSITION

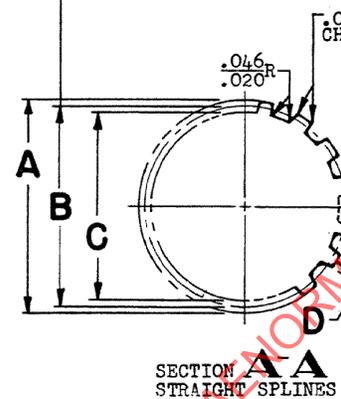
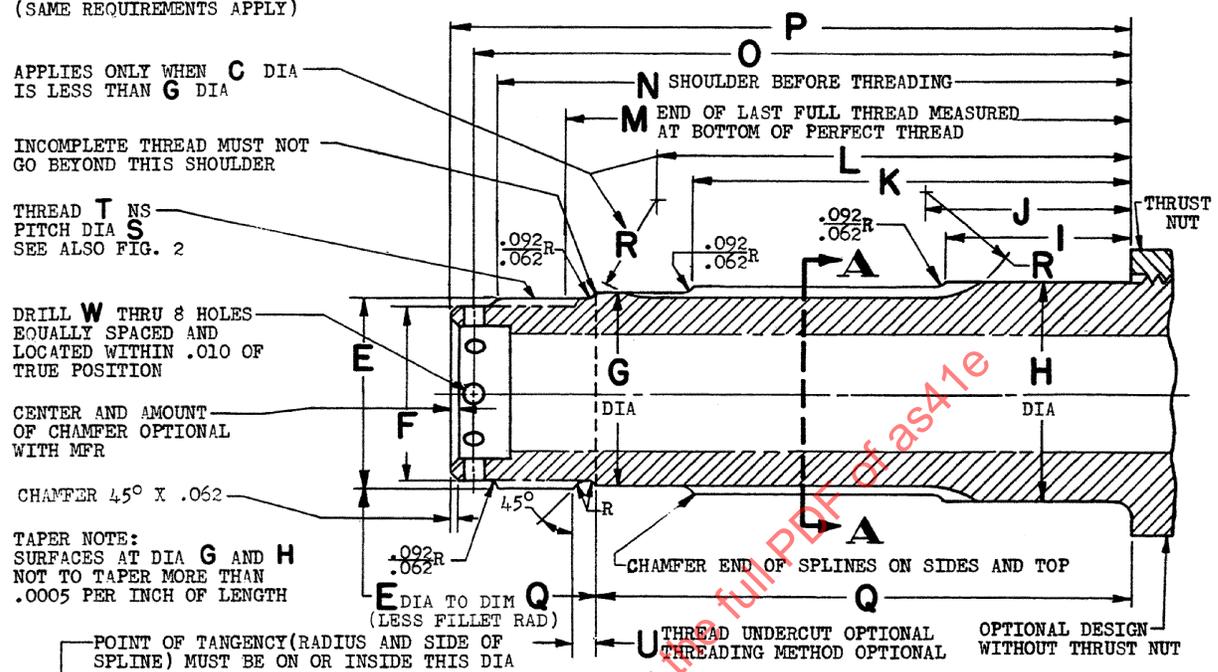
CENTER AND AMOUNT OF CHAMFER OPTIONAL WITH MFR

CHAMFER 45° X .062

TAPER NOTE: SURFACES AT DIA G AND H NOT TO TAPER MORE THAN .0005 PER INCH OF LENGTH

POINT OF TANGENCY (RADIUS AND SIDE OF SPLINE) MUST BE ON OR INSIDE THIS DIA

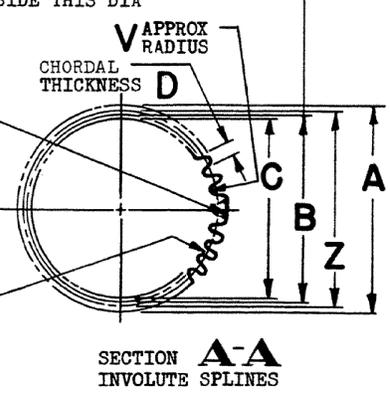
INVOLUTE TOOTH FORM MUST BE TRUE OUTSIDE THIS DIA



WIDE SPLINE OR BLANKED SLOT ON DIRECT DRIVE ENGINES SLOT MUST COME ON C OF FIRST THROW OF CRANKSHAFT WITHIN 2 DEGREES

WIDE SPLINE OR BLANKED SLOT OPTIONAL ON ALL OTHER ENGINES BUT NOT RECOMMENDED UNLESS REQUIRED FOR SOME PHASING PURPOSES

X SPLINES EQUALLY SPACED, OR SO, THAT ACCUMULATED ERRORS IN SPACING, INVOLUTE FORM, AND PARALLELISM ARE ABSORBED WITHIN THE LIMITS SPECIFIED FOR CHORDAL THICKNESS D



CONCENTRICITY:

WITH SHAFT MOUNTED ON DIA G AND REAR BEARING SURFACE, DIA H, OTHER BEARING SURFACES AND DIA A ON STRAIGHT SPLINES SHALL BE CONCENTRIC WITHIN .001 FIR., THREAD T -PITCH DIA S SHALL BE CONCENTRIC WITHIN .005 FIR., AND DIA Z ON INVOLUTE SPLINES SHALL BE CONCENTRIC WITHIN .002 FIR. ANGULAR POSITION OF SPLINES MAY VARY FREELY WITH RESPECT TO HOLES W BREAK EDGES .016

SHAFT SPLINE DATA:

- X NUMBER OF TEETH
- Y DIAMETRAL PITCH
- Z PITCH DIA (THEO)
- 30° PRESSURE ANGLE

DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES THREE PLACE DECIMALS ± .010 ANGLES ± 2°

PREPARED BY SAE COMMITTEE E-25, GENERAL STANDARDS FOR AEROSPACE PROPULSION SYSTEMS



AEROSPACE STANDARD PROPELLER SHAFT ENDS - SINGLE ROTATION

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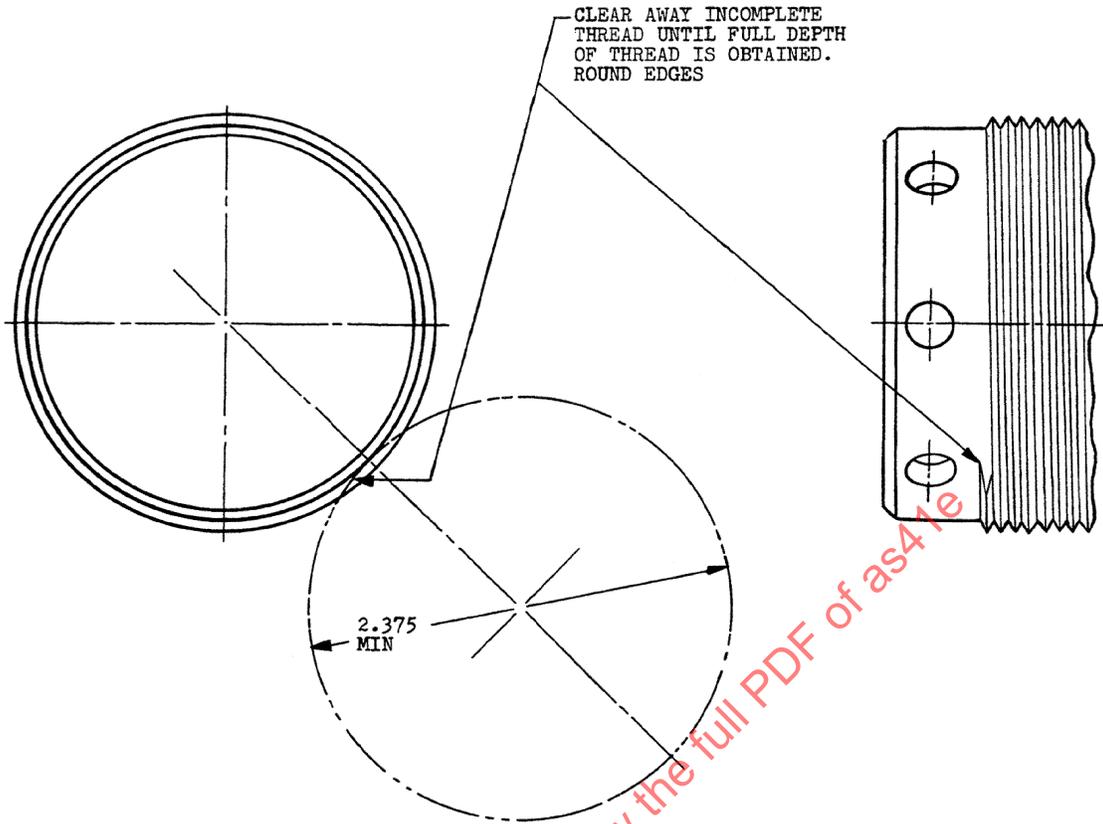
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ISSUED 1941-11 REVISED 1957-11 NONCURRENT 1973-08 REAFFIRMED NONCURRENT 2006-05

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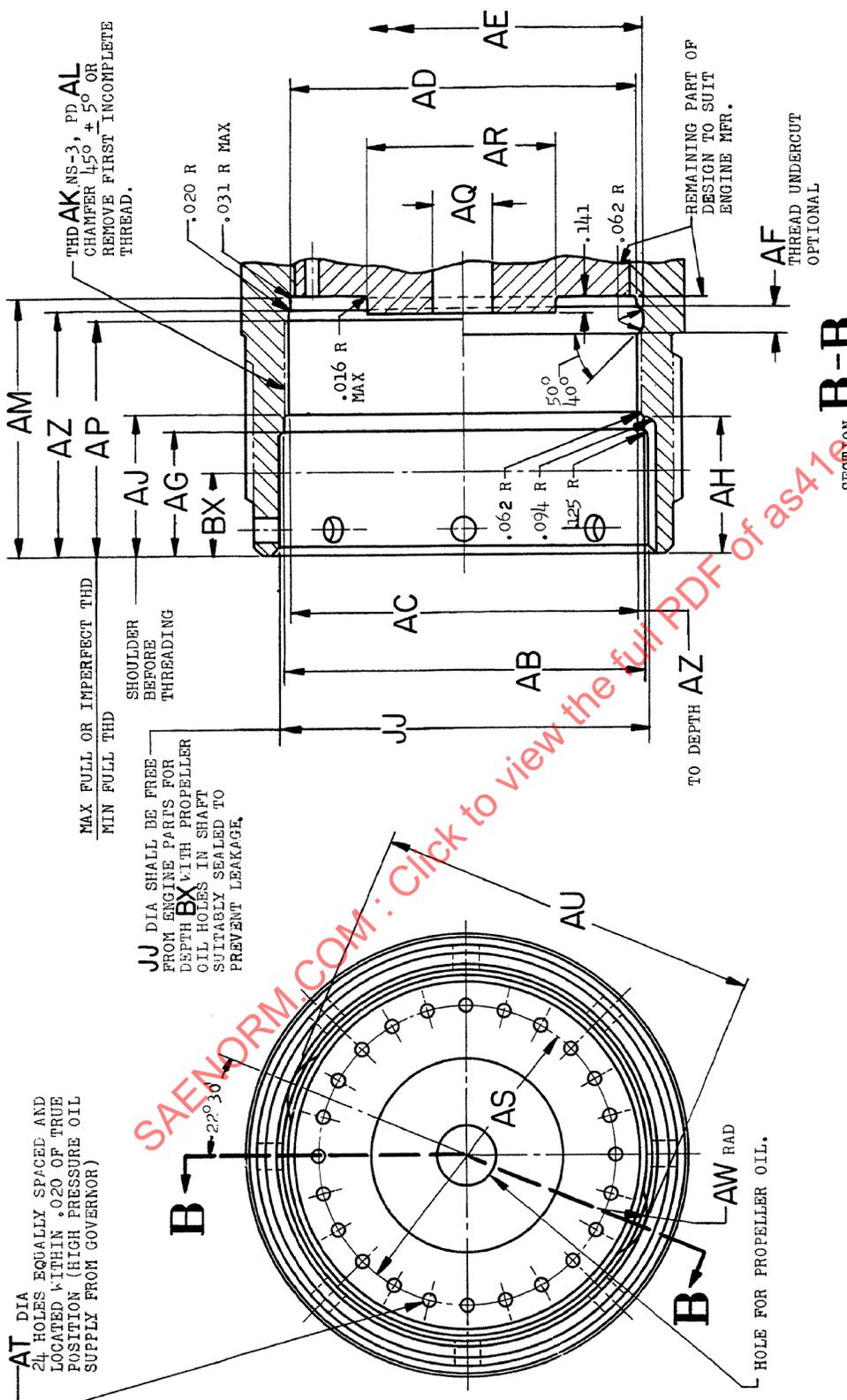


REMOVAL OF INCOMPLETE THREAD
METHOD OF REMOVAL OPTIONAL

BREAK EDGES .016

FIG. 2

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREE PLACE DECIMALS $\pm .010$
ANGLES $\pm 2^{\circ}$



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SLCTS SHOWN BY DIMENSION AU OPTIONAL.

CONCENTRICITY: DIA AD, AR, AND AL CONCENTRIC WITH DIA G (ON FIG. 1) WITHIN .005 FIR.

WHEN OIL TRANSFER PLUG IS NOT PROVIDED, ENGINE MFR. SHALL PROVIDE PLUG WITH FRONT FACE AT DIM. AM OR BETWEEN BX AND AM TO PREVENT LEAKAGE IN EITHER DIRECTION. MAX EXTERNAL PRESSURE 1.2 INCH HEAD OF SAE No. 10 OIL; MAX INTERNAL PRESSURE ENGINE IMPOSED CONDITION.

FIGURE SHOWS INTERNAL FEATURES OF SHAFT PREFERRED FOR RECIPROCATING ENGINES (SEE ALSO FIG. 4).

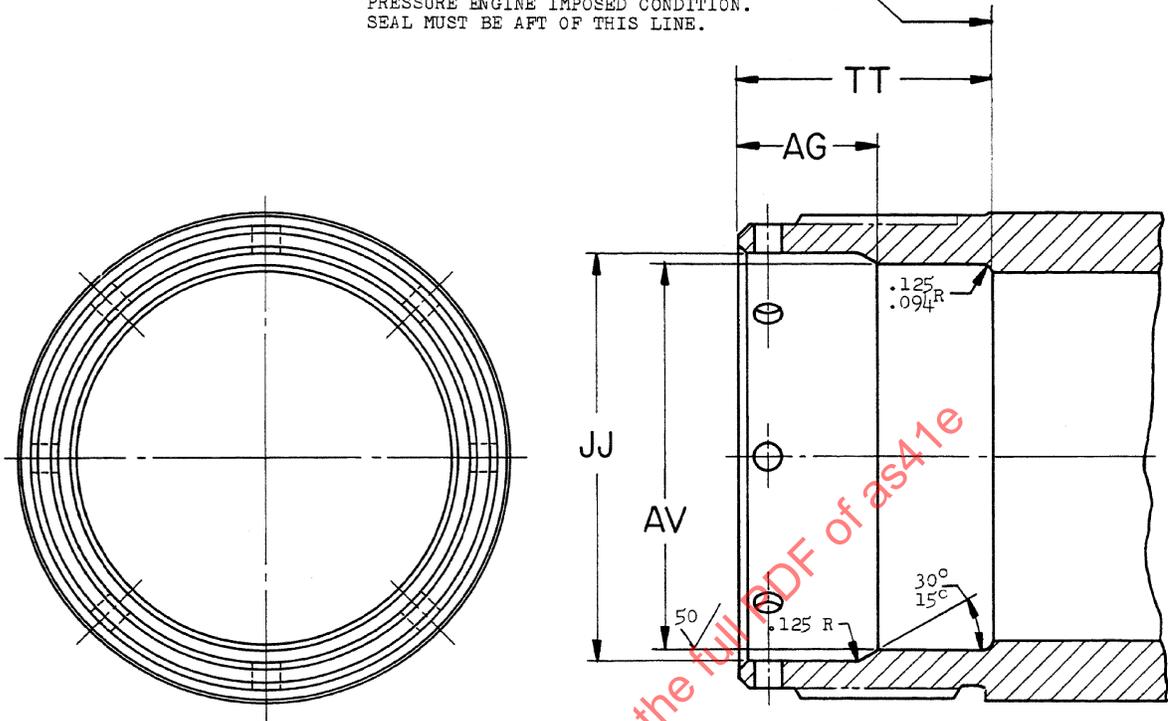
DIMENSIONS IN INCHES.
UNLESS OTHERWISE SPECIFIED:
BREAK SHARP EDGES .003 - .015
TOLERANCES; .003 - .015
THREE PLACE DECIMALS ± .010
ANGLES

FIG. 3

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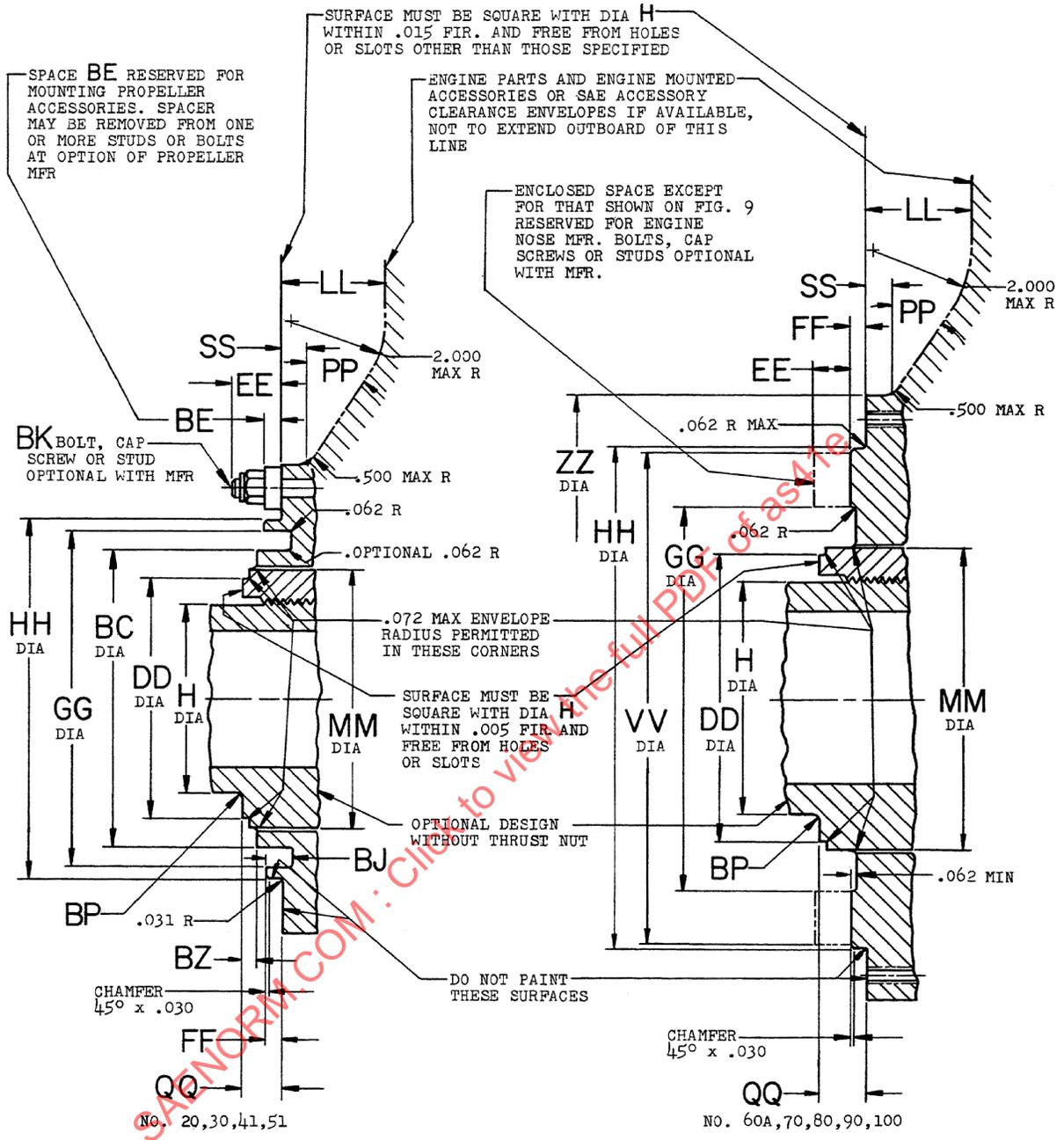
ENGINE MFR SHALL SEAL SHAFT TO
PREVENT LEAKAGE IN EITHER DIRECTION.
MAX EXTERNAL PRESSURE 12 INCH HEAD
OF SAE NO. 10 OIL. MAX INTERNAL
PRESSURE ENGINE IMPOSED CONDITION.
SEAL MUST BE AFT OF THIS LINE.



CONCENTRICITY: DIA AV CONCENTRIC WITH DIA G (ON FIG. 1) WITHIN .005 FIR.
FINISH: FOR INTERPRETATION OF SURFACE ROUGHNESS SYMBOL \checkmark . SEE AS 291.
INTERNAL DETAILS FOR CONFIGURATION WITHOUT OIL TRANSFER PROVISIONS (SEE ALSO FIG. 3).

FIG. 4

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED:
BREAK SHARP EDGES .003 - .015
TOLERANCES;
THREE PLACE DECIMALS \pm .010



CONCENTRICITY NOTE: DIA H AND HH TO BE CONCENTRIC WITHIN .007 FIR.

BREAK EDGES .016

NOSE END CROSS SECTION
FIG 5

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREE PLACE DECIMALS $\pm .010$
ANGLES $\pm 2^\circ$

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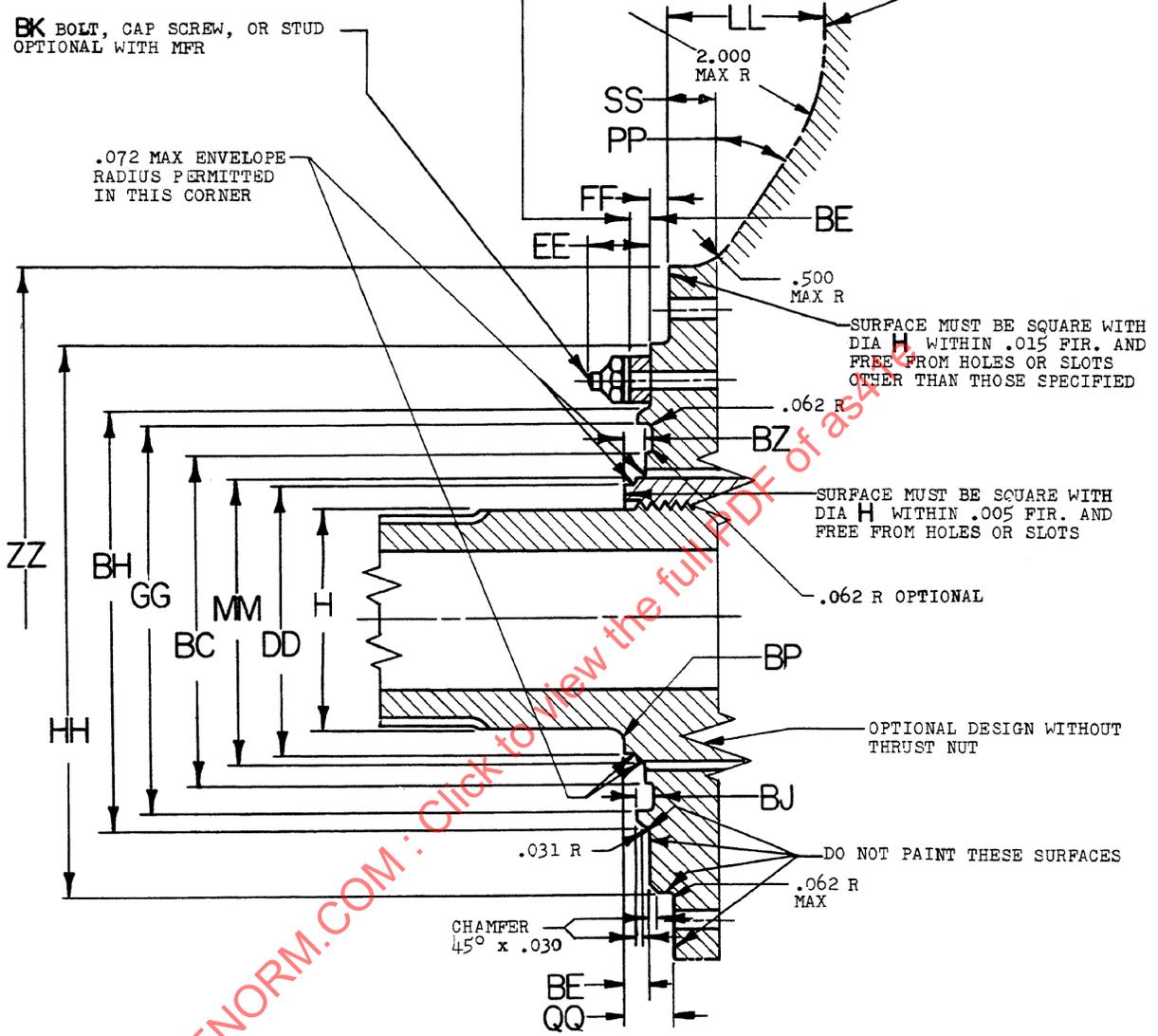
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SPACE **BE** RESERVED FOR MOUNTING PROPELLER ACCESSORIES. SPACER MAY BE REMOVED FROM ONE OR MORE STUDS OR BOLTS AT OPTION OF PROPELLER MFR

ENGINE PARTS AND ENGINE MOUNTED ACCESSORIES OR SAE ACCESSORY CLEARANCE ENVELOPES IF AVAILABLE, NOT TO EXTEND OUTBOARD OF THIS LINE.

BK BOLT, CAP SCREW, OR STUD
OPTIONAL WITH MFR

.072 MAX ENVELOPE
RADIUS PERMITTED
IN THIS CORNER



NO. 51A

CONCENTRICITY NOTE:

DIA **H** AND **HH** TO BE
CONCENTRIC WITHIN .007 FIR.

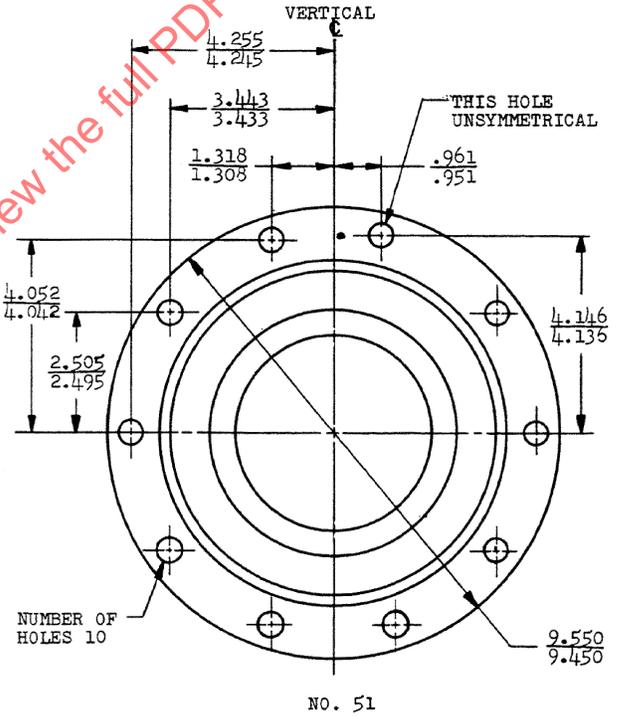
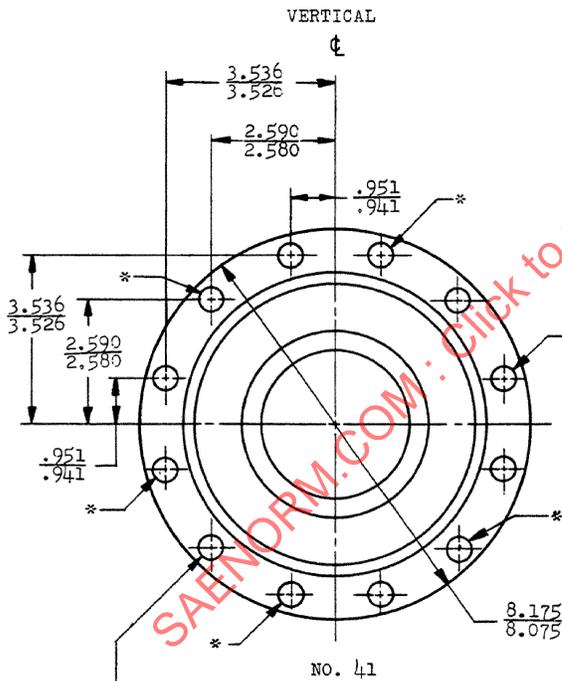
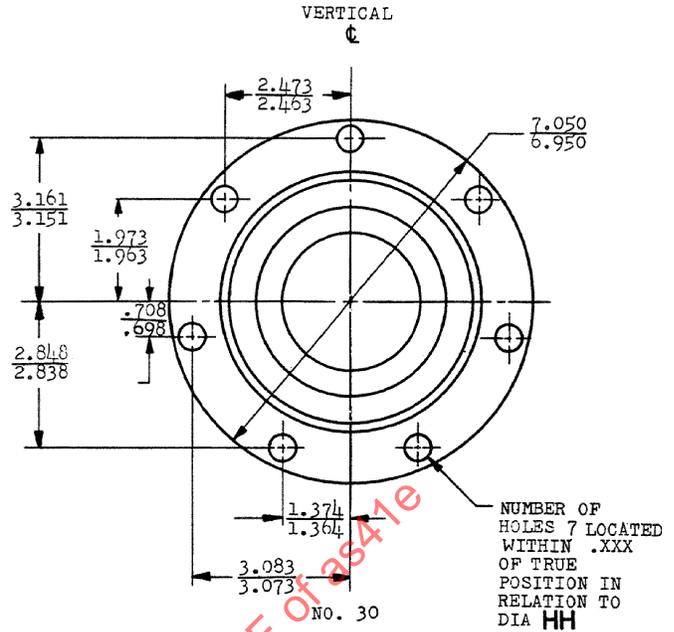
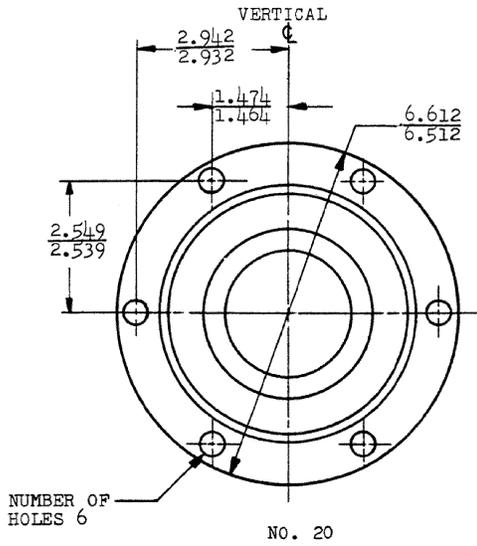
BREAK EDGES .016

FIG. 6

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREE PLACE DECIMALS $\pm .010$
ANGLES $\pm 2^\circ$

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NUMBER OF HOLES 6 OR 12
WHEN 6 HOLES ARE USED,
HOLES MARKED * ARE TO
BE OMITTED

SEE FIGS 5 AND TABLES FOR OTHER APPLICABLE DIMENSIONS

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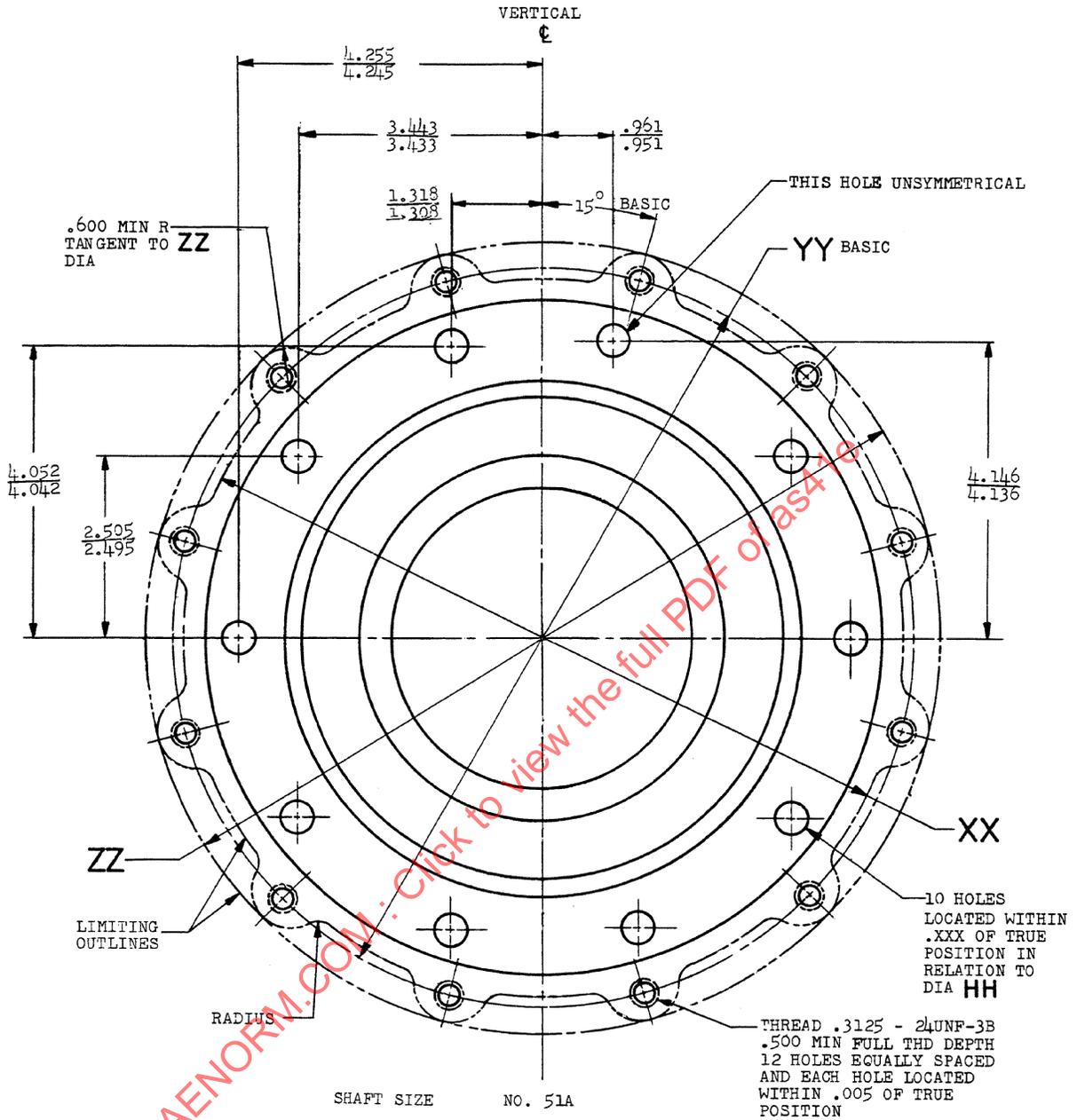
NOSE END PLAN VIEWS

FIG. 7

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREE PLACE DECIMALS $\pm .010$
ANGLES ± 2

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HOLES ARE DIMENSIONED IN RELATION TO CENTER OF DIA HH (FIG. 6)

BREAK EDGES .016

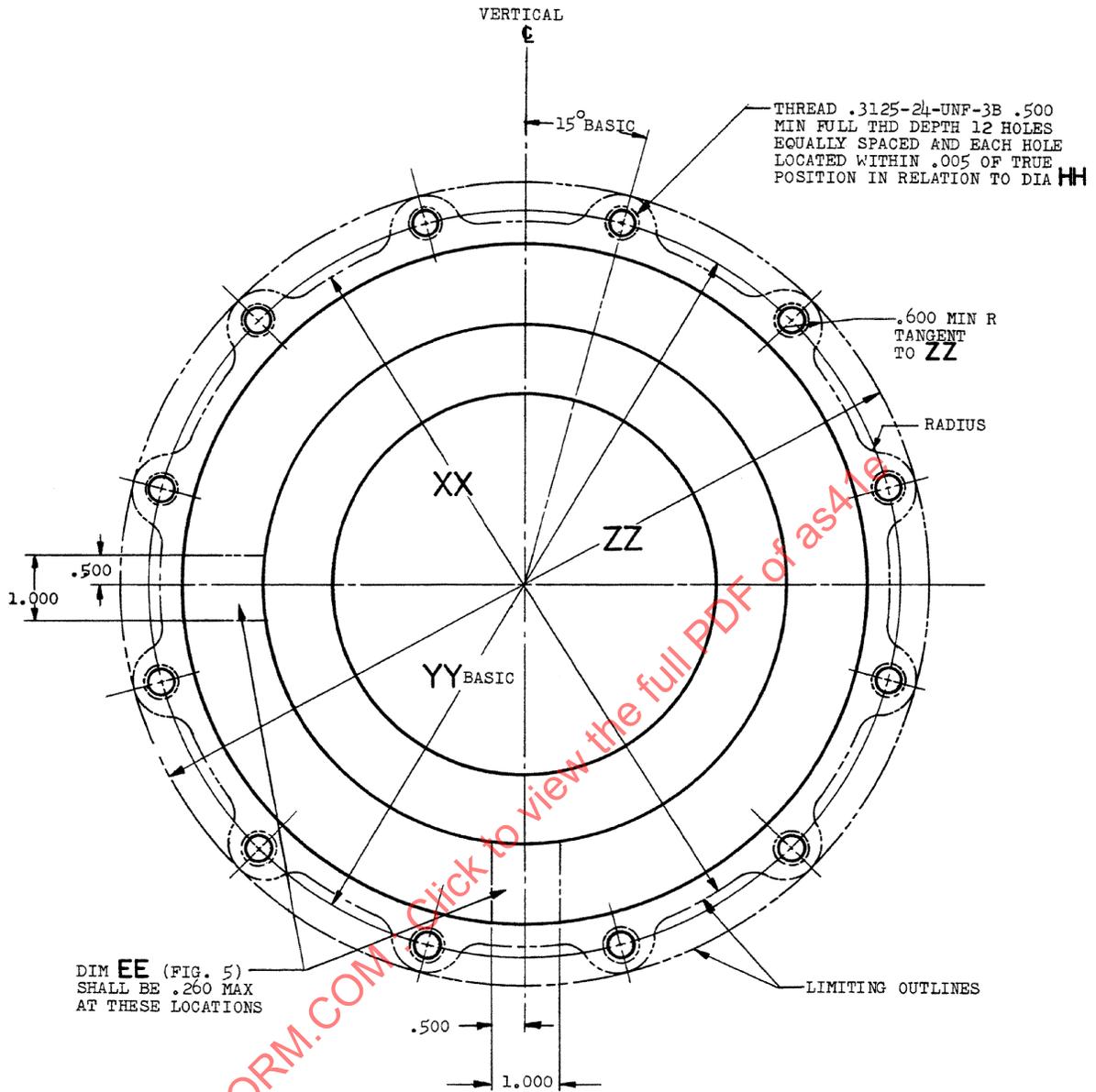
NOSE END PLAN VIEW

FIG. 8

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREE PLACE DECIMALS $\pm .010$
ANGLES $\pm 2^\circ$

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SHAFT SIZE NOS. 60A, 70, 80, 90, 100

SEE FIG. 5 AND TABLES FOR OTHER APPLICABLE DIMENSIONS

BREAK EDGES .016

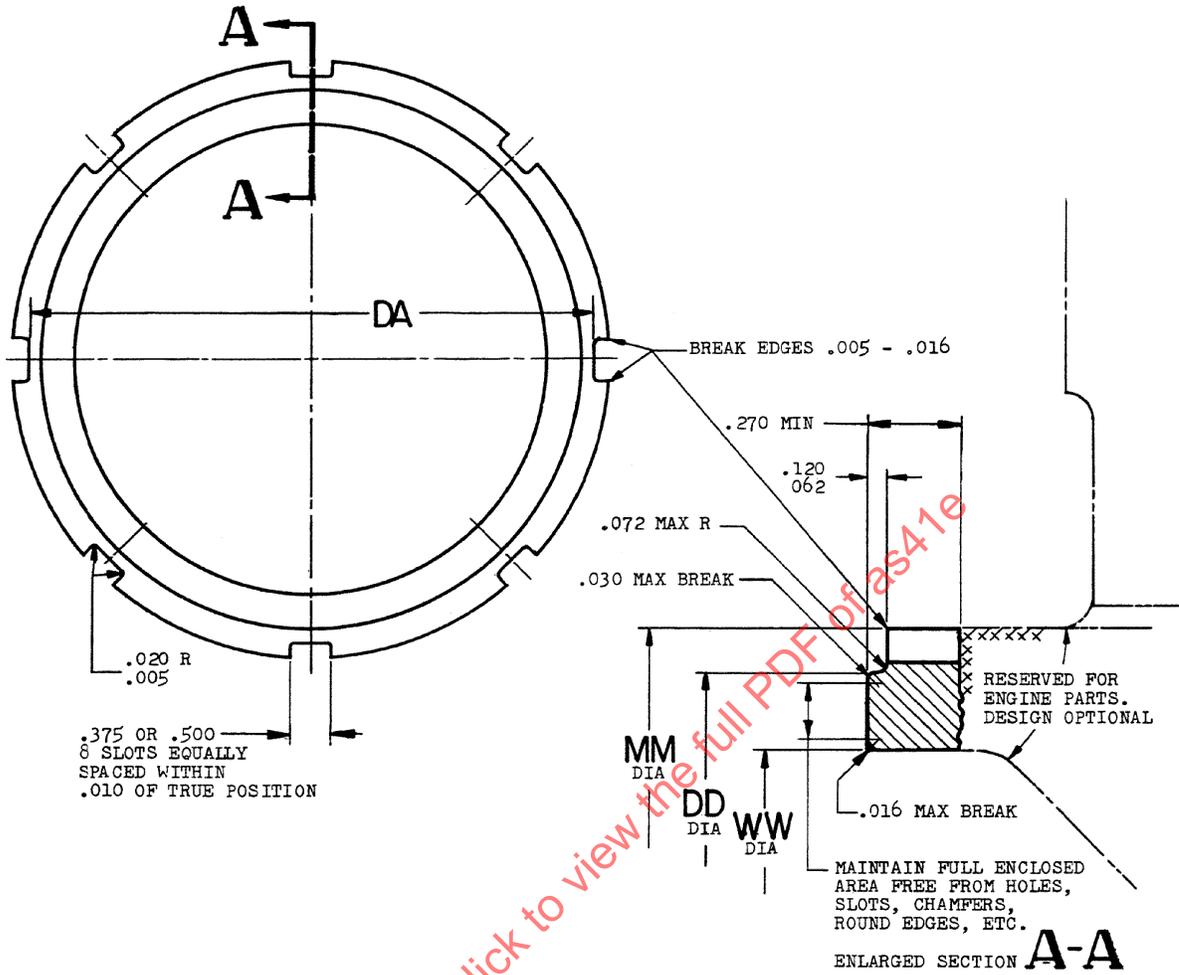
NOSE END PLAN VIEW

FIG. 9

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREE PLACE DECIMALS $\pm .010$
ANGLES $\pm 2^\circ$

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MIN VALUE OF **MM** APPLIES ONLY TO .270 MIN LENGTH, DETAILED ABOVE, BEYOND WHICH **MM** MAX ONLY APPLIES AND **MM** MIN MAY SUIT DESIGN AS FAR AS ENGINE NOSE OUTLINE.

PROPELLER SHAFT THRUST NUT
WHEN APPLICABLE

FIG. 10

DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREE PLACE DECIMALS $\pm .010$
ANGLES $\pm 2^\circ$