OD Form 1716-1
1 Feb 55

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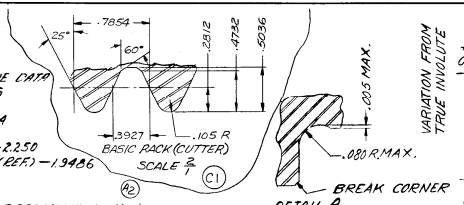
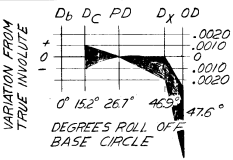
D 10898040

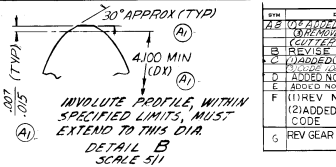


EXTERNAL INVOLUTE SPLINE DATA
FLAT ROOT SIDE BEARING
NUMBER OF TEETH — 27
DIAMETRAL PITCH — 12/24
PRESSURE ANGLE — 30°
PITCH DIAMETER (REF.) — 2.250
BASE CIRCLE DIAMETER (REF.) — 1.9486

(C1)



INVOLUTE PROFILE CONTROL CHART
TOOTH PROFILE MUST BE A SMOOTH CURVE WITHIN THE SHADED AREA



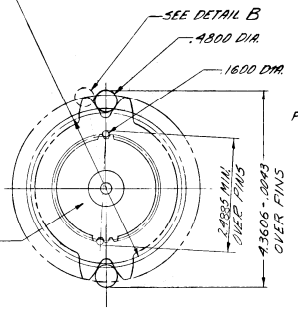
SYM	DESCRIPTION	DATE	APPROVAL
A2	(1) REVISED (2) REVISED NOTE (3) REMOVED BASIC RACK (CUTTER) VIEW	7-6-6	
B	REVISE PER E094419	1-8-62	
C	(1) ADDED (E) NOTE ADDED (2) NOTE ADDED	3-16-62	
D	ADDED NOTE SEE ERR G1035	2-1-80	
E	ADDED NOTE ERR BRI-H7413	5-15-81	
F	(1) REV NOTES (2) ADDED NOTES & CAGE CODE (BRI-N6351)	7-8-89	
G	REV GEAR DATA NOTE BRI-U4355	020320	ED

(A1)

ALLOWABLE SPLINE ERRORS
INVOLUTE PROFILE ERROR: .0005 MAX.
CUMULATIVE PITCH ERROR: .0015 MAX.
(ANY TWO TEETH)
PARALLELISM ERROR: .0005 MAX.

3.282 MAX TIF DIA (D_c)
START OF ACTIVE PROFILE

GEAR DATA (FOR ENGINEERS USE ONLY)
BASE CIRCLE DIA. — 3.1721
PITCH DIA. — 3.500
PRESSURE ANGLE — 25°
ARC TOOTH THICKNESS AT PITCH DIA — .4688 - .0026
BACKLASH TO BE .008 TO .011 WHEN CHECKED WITH A 61 TOOTH MATING MASTER GEAR (15.863 OVER PINS) AT 9.375 CENTER DISTANCE
PART NO. OF MATING GEAR — 10898041-1



MANUFACTURING DATA
14 TEETH
4 PITCH

APPLY PART NUMBER, MFG. SERIAL NO. AND IDENTIFICATION

.002 MAX INVOLUTE PROFILE ERROR (SEE CHART)
.0008 MAX. ERROR IN SPACING BETWEEN ADJACENT TEETH
.001/INCH OF FACE MAX. PARALLELISM ERROR

TEETH SHAVED TO SIZE AND GRINDING AFTER HEAT TREATMENT (C2)

DIMENSIONS AND TOLERANCES PER ANSI Y14.5 - 73
SHOT PEEN SPLINES WITH SAE QUALITY CLIPPED WIRE OR ROUND STEEL SHOT TO THE INTENSITY OF .010 A2 (SPEC MIL-S-13165). SHOT AND WIRE SIZE TO BE CONTROLLED TO INSURE THAT THE SPECIFIED INTENSITY IS OBTAINED IN THE SMALLEST RADIUS OR FILLET.
APPLY PART NUMBER PER MIL-STD-130: (F1)
19207-10898040
MFR-(CAGE CODE)

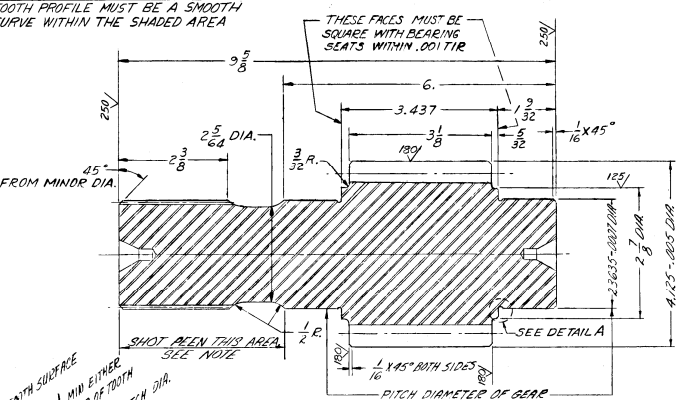
63/ALL OVER EXCEPT AS NOTED

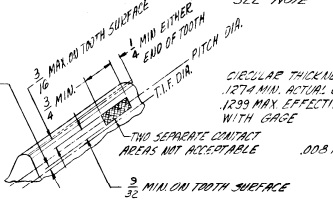
NOTE: FOR MATERIAL, HEAT TREAT AND FINAL FINISH, SEE DWG C-8689041. HYDROGEN EMBRITTLEMENT RELIEF AT 350°F MINIMUM 4 HOURS WITHIN 4 HOURS OF PLATING.

QUALITY ASSURANCE REQUIREMENTS (QARS) APPLY TO THIS DRAWING (QAR NO. SAME AS PART NO.) (F2)

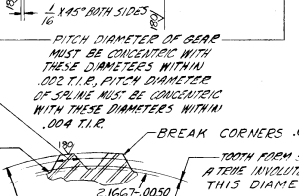
PMIC, A.

OPTIONAL MATERIAL: STEEL, FORGING
4320 H GRADE A, AI, B, C, D PER MIL-S-46172 (D1)





CIRCULAR THICKNESS
.1274 MIN. ACTUAL (REF.)
.1299 MAX. EFFECTIVE WITH GAGE



ENLARGED VIEW OF SPLINE
SCALE 5/1

CRITICAL APPLICATION COMPONENT (E)

GEARS TO BE COLLED IN BOTH DIRECTIONS OF ROTATION ON A GLEASON RALLING MACHINE OR EQUIVALENT ON NOMINAL CENTERS WITH A MATING MASTER HAVING NOT MORE THAN .001 VARIATION FROM TRUE INVOLUTE, .001 TOTAL PARALLELISM ERROR AND .001 MAXIMUM CROWN WHEN ROLLED WITH SUCH A MASTER THE GEAR SHALL SHOW A CONTACT PATTERN CONFORMING TO THE SKETCH ABOVE.
THE HEAVIEST CONTACT PRESSURE MUST NOT BE AT THE EXTREME TIP AND AT THE LAST POINT OF CONTACT. LAST POINT OF CONTACT MUST NOT BE BELOW T.I.F. DIAMETER.

(B) (F2) CURRENT CAGE CODE NO. 19207 (23)

ORDNANCE PART NO. 10898040

12463171	M992A2 / M109A6 / M109A2	PHYSICAL PROPERTIES	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES ± 1/64 ± .005 ± 1°
SEE ENGINEERING RECORDS		TP / TB / RA / BH / BH	MATERIAL: SEE NOTE
NEXT ASSY	USED ON		HEAT TREATMENT: SEE NOTE
APPLICATION			FINAL PROTECTIVE FINISH: SEE NOTE
	APPLY PART NO. AS SPECIFIED		

ORIGINAL DATE OF DRAWING Jan. 10, 1941
DRAFTSMAN / CHECKED / TRACED / CHECKED / ENGINEERING / CHIEF ENGINEER / SUBMITTED
ORD CORPS
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

GEARSHAFT, SPUR, FINAL DRIVE

ORDNANCE CORPS
DEPT OF THE ARMY
DETROIT ARSENAL

SCALE 1/1 UNIT WT/G. 01 LBS

DWG SIZE D 10898040 SHEET 1 OF

V.E.A. CLEVELAND OPERATIONS PLANT
A DIVISION OF CHEVROLET MOTOR CAR DIV. G.M.C.

D 837936A REV. 02 2334 07 2175 D 452434

E. A. 74/64 (10/32 921) (B) 94419 (C) 4253