



Technical Manual

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

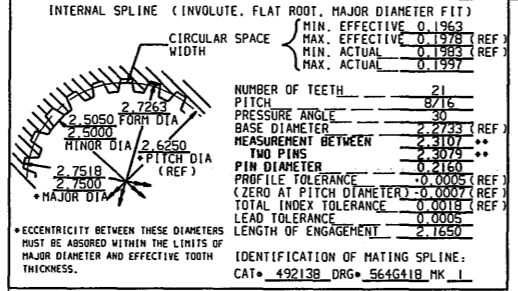
DRAWING NO. 564B767		SHEET NO. 1		DBT AMERICA		P.O. BOX 1879 COLS. OHIO 43216	
ORDER		ORDER		ORDER		ORDER	
MINER		MINER		MINER		MINER	
30MB		30MB		30MB		30MB	
MACHINE		MACHINE		MACHINE		MACHINE	
REVISED		REVISED		REVISED		REVISED	
GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE	
A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02	
B MK-42 REH 03/13/03		B MK-42 REH 03/13/03		B MK-42 REH 03/13/03		B MK-42 REH 03/13/03	
C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03	
D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03	
DRAWN R. ZYCH		DATE 10-30-01		DIRECTED R. ZYCH		FOR METHODS CHECK-SEE DWGS:	
CHECKED DMR		DATE 10-30-01		APPROVED		563B104	
9	8	7	6	5	4	3	2
QUANT.	MAT'L.	MK.	DESCRIPTION	CAT. NO.	ORIG. DRW.	MK.	
			1 R.H. TRAM GEAR CASE ASS'Y.	492177			
			2 L.H. TRAM GEAR CASE ASS'Y.	492178			
			3 R.H. TRAM GEAR CASE MACHINING	492175	564G768		
			4 L.H. TRAM GEAR CASE MACHINING	492176	564G776		
			5 MOTOR TRAM DRIVE				
			6 TRAM DRIVE SHAFT	492183	564G818		
			7 SEAL CARRIER	496705	549F288		
			8 CRAWLER PLANETARY ASSEMBLY	492185	564B822		
			9 7T CRAWLER DRIVE SPROCKET COMP.	492190	564G812		
			10 5LT GEAR	486617	549F328		
			11 44T IDLER GEAR	486618	549F329		
			12 1ST PINION	486619	549F330		
			13 RING GEAR	492181	564G815		
			14 INPUT PLANET CARRIER ASSEMBLY	486652	549B350		
			15 BEARING CARRIER	486620	549F351		
			16 IDLER SHAFT	486621	549F352		
			17 SHIM .020 THK.	486622	549F353		
			18 SHIM .007 THK.	486623	549F353		
			19 SHIM .005 THK.	486624	549F353		
			20 SHIM .020 THK.	486625	549F353		
			21 SHIM .007 THK.	486626	549F353		
			22 SHIM .005 THK.	486627	549F353		
			23 BEARING CARRIER	486750	549F354		
			24 BEARING CARRIER	486751	549F355		
			25 TRAM MOTOR QUILL SHAFT	492184	564G819		
			26 SUN GEAR FINISHED	492182	564G816		
			27 SHIM .020 THK.	486754	549F575		
			28 SHIM .007 THK.	486755	549F575		
			29 SHIM .005 THK.	486756	549F575		
			30 RETAINER PLATE	486757	549F576		
			31 COVER PLATE	492011	562G148		
			32 GASKET FOR MK-31	492012	562G148		
			33 SPHERICAL ROLLER BRG SKF #23938CAC/W33	70791	521.220	P5	
			34 BEARING CONE TIMKEN# 39590	62688	521.710	P5	
			35 BEARING CUP TIMKEN# 39520	402665	521.710	P5	
			36 BEARING CONE TIMKEN# 598	70799	521.710	P7	
			37 BEARING CUP TIMKEN# 592A	158143	521.710	P7	
			38 BEARING CONE TIMKEN# 48290	62956	521.710	P8	
			39 BEARING CUP TIMKEN# 48220	62957	521.710	P8	
			40 EXTERNAL RETAINING RING TRUARC#5100-250	170937	527.712	P1	
THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF DBT AMERICA INCORPORATED. NEITHER THE DOCUMENT NOR ITS CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR IN PART, WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF DBT AMERICA INCORPORATED.		DISTR. CODE SEE STD. 110.118		STD: A	SPECIAL: 12	ENG. SEC: B	ORDER NO. -
TITLE TRAM GEAR CASE ASSEMBLY		DRAWING NO. 564B767		SHEET NO. OF 3 SHEETS			

DRAWING NO. 564B767		SHEET NO. 2		DBT AMERICA		P.O. BOX 1879 COLS. OHIO 43216	
ORDER		ORDER		ORDER		ORDER	
MINER		MINER		MINER		MINER	
30MB		30MB		30MB		30MB	
MACHINE		MACHINE		MACHINE		MACHINE	
REVISED		REVISED		REVISED		REVISED	
GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE	
A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02	
B MK-42 REH 03/13/03		B MK-42 REH 03/13/03		B MK-42 REH 03/13/03		B MK-42 REH 03/13/03	
C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03	
D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03	
DRAWN R. ZYCH		DATE 10-30-01		DIRECTED R. ZYCH		FOR METHODS CHECK-SEE DWGS:	
CHECKED DMR		DATE 10-30-01		APPROVED		563B104	
9	8	7	6	5	4	3	2
QUANT.	MAT'L.	MK.	DESCRIPTION	CAT. NO.	ORIG. DRW.	MK.	
			41 INTERNAL RETAINING RING TRUARC#N5000-362	70800	527.712	P1	
			42				
			43 3/16 X 4 3/8 O.D. "O"RING PARKER# 2-345	68818	531.462	P6	
			44 3/16 X 5 1/2 O.D. "O"RING PARKER# 2-354	69470	531.462	P6	
			45 3/16 X 10 7/8 O.D. "O"RING PARKER# 2-378	68207	531.462	P6	
			46 1/8 X 8" O.D. "O"RING PARKER# 2-265	166356	531.462	P5	
			47 1/4 X 10 1/2 O.D. "O"RING PARKER# 2-449	68797	531.462	P7	
			48 1/4 X 13 1/2 O.D. "O"RING PARKER# 2-456	68561	531.462	P7	
			49 1/4 X 14 1/2 O.D. "O"RING PARKER# 2-457	68766	531.462	P7	
			50 1/2 X 1" LG. HARDENED DOWEL PIN	66084	561.533	P1	
			51 1" X 4" LG. HARDENED DOWEL PIN	63659	561.533	P1	
			52 1/2-13 X 1 1/4 LG. H.H.C.S. DRILLED HD.	68019	C-68019	I	
			53 5/8-11 X 1 1/2 LG. H.H.C.S.	67795	561.321	P3	
			54 1/2-13 X 1 1/4 LG. NYLOC S.H.C.S.	70641	561.328	P1	
			55 3/4-10 X 1 3/4 LG. NYLOC S.H.C.S.	70803	561.328	P1	
			56 3/4-10 X 5 1/2 LG. NYLOC S.H.C.S.		564A842	3	
			57 3/4-10 X 8 1/2 LG. NYLOC S.H.C.S.	70802	561.328	P1	
			58 5/8 SPRING LOCKWASHER	23356	561.731	P1	
			59				
			60				
			61 1/8 RELIEF FITTING ALEMITE# 47200	67698	531.511	P4	
			62 #14 GAGE X 5'-0" LG. LOCKWIRE				
			63 LOCKWIRE INSTRUCTIONS		511A060		
			64 R.H. TRAM GEAR CASE ASSEMBLY DRG.		564G804		
			65 R.H. SECTION A-A		564G805		
			66 R.H. VIEW B-B		564G806		
			67 R.H. SECTION C-C		564G807		
			68 1"-8 X 3" LG. SOCKET HEAD CAP SCR	66887	561.327	P1	
			69 L.H. TRAM GEAR CASE ASSEMBLY DRG.		564G808		
			70 L.H. SECTION A-A		564G809		
			71 L.H. VIEW B-B		564G810		
			72 L.H. SECTION C-C		564G811		
			73 3/4" SOCKET HEAD PIPE PLUG (MAGNETIC)	70592	553.471	P3	
			74 DUO-CONE SEAL	487095	C487095	I	
			75 1/2" SOCKET HEAD PIPE PLUG (NPTF)	63145	553.471	P1	
			76 1/4" SOCKET HEAD PIPE PLUG (NPTF)	63143	553.471	P1	
			77 1" HARDENED STEEL WASHER	67000	561.716	P1	
			78 1"-8 X 4" LG. SOCKET HEAD CAP SCR	66890	561.327	P1	
			79 R.H. TRAM GEAR CASE ASSEMBLY REBUILD	492179			
			80 L.H. TRAM GEAR CASE ASSEMBLY REBUILD	492180			
THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF DBT AMERICA INCORPORATED. NEITHER THE DOCUMENT NOR ITS CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR IN PART, WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF DBT AMERICA INCORPORATED.		DISTR. CODE SEE STD. 110.118		STD: A	SPECIAL: 12	ENG. SEC: B	ORDER NO. -
TITLE TRAM GEAR CASE ASSEMBLY		DRAWING NO. 564B767		SHEET NO. OF 3 SHEETS			

DRAWING NO. 564B767		SHEET NO. 3		DBT AMERICA		PO BOX 1879 COLS. OH 43216	
ORDER		ORDER		ORDER		ORDER	
MINER		MINER		MINER		MINER	
30MB		30MB		30MB		30MB	
MACHINE		MACHINE		MACHINE		MACHINE	
REVISED		REVISED		REVISED		REVISED	
GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE		GIVE MK - INITIALS-DATE	
A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02		A MK-56495 ROLFE 5-21-02	
B MK-42 REH 03/13/03		B MK-42 REH 03/13/03		B MK-42 REH 03/13/03		B MK-42 REH 03/13/03	
C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03		C GRPS 3, 4, REH 06/06/03	
D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03		D MK-111 RPZ 11/12/03	
DRAWN R. ZYCH		DATE 10/30/01		DIRECTED R. ZYCH		FOR METHODS CHECK-SEE DWGS:	
CHECKED DMR		DATE 10/30/01		APPROVED		563B104	
9	8	7	6	5	4	3	2
QUANT.	MAT'L.	MK.	DESCRIPTION	CAT. NO.	ORIG. DRW.	MK.	
			81 OIL LEVEL SIGHT GLASS (1" NPT)	499004	551A574	3	
			82 1/8" X 4-3/8" O.D. "O"RING #2-243	64514	531.462	P4	
			83 BEARING RETAINER	491472	557G594	I	
			84 1/2"-13 X 1" LG HEX HEAD CAP SCR (SPCL)	438855	561.320	P2	
			85 3/4" SOCKET HEAD PIPE PLUG (NPTF)	63146	553.471	P1	
			86 39590/39520 MICROPOLY BEARING SET	70939	C70939	I	
			87 .005 SHIM	491478	557G588	4	
			88 .007 SHIM	491479	557G588	5	
			89 .020 SHIM	491480	557G588	6	
			90 1ST 4P IDLER	491467	557G590	I	
			91 CLAMP BAR	492186	564G820	I	
			92 SNAP RING (RELANCE P/N 418057-62-A)				
			93 SHAFT PLUG (RELANCE P/N 418057-278-A)				
			94 O-RING FOR MK-93 SHAFT PLUG (RELANCE P/N 35500-18-FV)				
			95 TRAM MOTOR WATER PIPING		566G374	I	
			96				
			97 1"-8 X 2-3/4" LG HEX HEAD CAP SCR	71386	561.321	P3	
			98 CLAMP BAR		567G945	I	
			99				
			100 R.H. TRAM GEAR CASE ASS'Y.				
			101 L.H. TRAM GEAR CASE ASS'Y.				
			102 R.H. TRAM GEAR CASE ASSEMBLY DRG.		568G046		
			103 R.H. SECTION A-A		568G047		
			104 R.H. VIEW B-B		568G048		
			105 R.H. SECTION C-C		568G049		
			106 L.H. TRAM GEAR CASE ASSEMBLY DRG.		568G050		
			107 L.H. SECTION A-A		568G051		
			108 L.H. VIEW B-B		568G052		
			109 L.H. SECTION C-C		568G053		
			110				
			111 TRAM SPROCKET REPAIR KIT		568G600	I	
			112				
			113 TRAM CASE ASSM INSTRUCTIONS MK-1.2		568A601		
			114				
			115 TRAM CASE ASSM INSTRUCTIONS MK-100.101		568		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

REVISIONS	
NO.	DESCRIPTION (ZONE-WAS-BY-DATE)



IDENTIFICATION OF MATING SPLINE:
CAT. 492138 DRG. 564G118 MK. 1

NOTES
1. NO FINISHING OF TOOTH PROFILE AFTER HEAT TREAT
2. **CUT PIN MEASUREMENT *.005 FOR HEAT TREATMENT SHRINKAGE.

TYPE OF GEAR	EXTERNAL	HELICAL	INVOLUTE
HELIX ANGLE	15°	HAND OF HELIX	RIGHT
NO. OF TEETH	41	DIAMETRAL PITCH	5
TYPE OF TEETH	FULL DEPTH		
TYPE OF ROOT	FULL FILLET		
PRESSURE ANGLE	25°	HOB POSITION	0.000
ADDENDUM	0.2000	WHOLE DEPTH (APPROX.)	0.4500
OUTSIDE DIAMETER (SPECIAL?)	NO.	8.8893	
BASE CIRCLE DIAMETER		7.6450	
TOOTH THICKNESS REDUCTION FOR BACKLASH		0.0046	
IDENTIFICATION OF MATING GEAR CAT. NO. 492132 DRG. NO. 564G193 MK. 1 CENTER DISTANCE 6.4679			

INSPECTION DATA (AFTER HEAT TREATMENT)	
SPAN MEASUREMENT OF 7 TEETH (ALLOWABLE VARIATION ON ANY ONE GEAR 0.001 MAX)	3.9425 -0.0000 -0.0039
CHORDAL ADDENDUM	0.2026
CHORDAL THICKNESS	0.3095 -0.0000 -0.0039
MEASUREMENT OVER 0.3456 DIAMETER PINS	8.9587
ROLL ANGLE TO START OF ACTIVE PROFILE	22.0730
CENTER DISTANCE WITH - TOOTH	
MASTER GEAR	N/A
AGHA CLASS #8 GEAR PER AGHA 309.03 JAN 1973	
AGHA CLASS #6 FOR LEAD TOLERANCE ONLY	
RUNOUT TOLERANCE	0.0044
PITCH TOLERANCE	0.0011
TOOTH PROFILE TOLERANCE	0.0015
LEAD TOLERANCE	0.0012
TOOTH TO TOOTH COMPOSITE TOLERANCE	0.0017
TOTAL COMPOSITE TOLERANCE	0.0061

564G191

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF DBT AMERICA INC. NEITHER THE DOCUMENT NOR IT'S CONTENTS ARE TO BE USED, REPRODUCED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF DBT AMERICA INC.

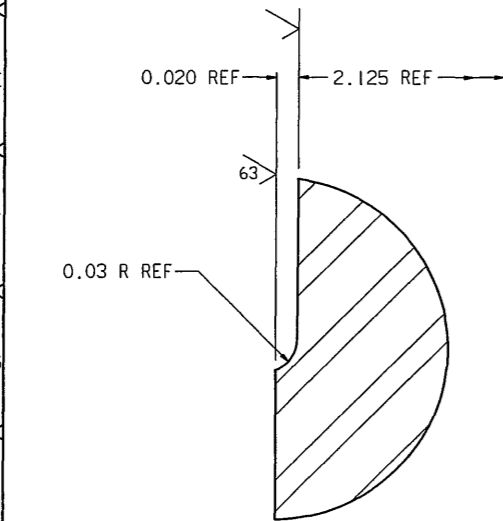
DBT AMERICA
PO BOX 1879, COLUMBUS, OHIO 43216
41T 5P
RH HELICAL
GEAR - 30M

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
SCALE 1:2 SCALE DRAWING

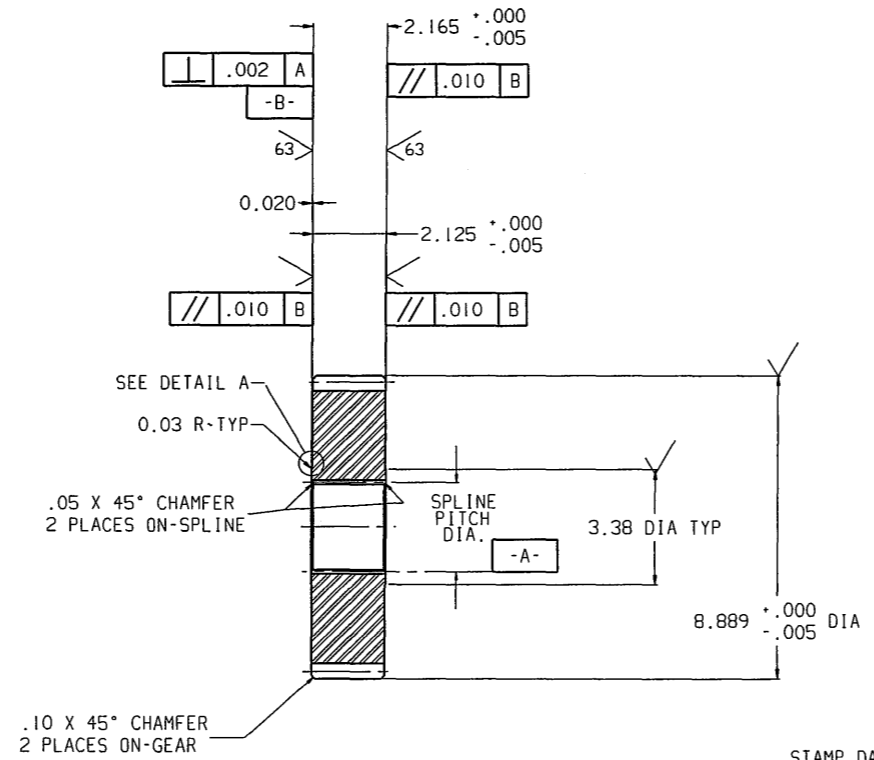
DRAWN	COLE	DATE	9/1/01	DIRECTED	ZYCH	CUSTOMER	
CHECKED	COLE	DATE	9/1/01	APPROVED		ORDER NO.	
QUANT.	1	MATERIAL	1141T 5P RH HELICAL GEAR	DESCRIPTION		CAT. NO.	492130
	1		4820H	2	GEAR FORGING #98519		548F530

CARBURIZE CASE HEAT TREAT SPECIFICATIONS
SPECIFY AREA TO BE HEAT TREATED: GEAR TEETH AND INTERNAL SPLINE
REFER TO DETAIL/MK_001

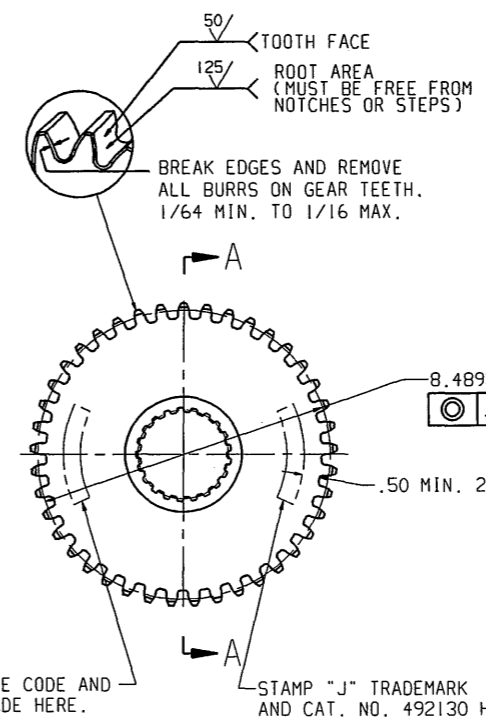
CARBURIZE TO EFFECTIVE CASE DEPTH OF .035-.050 INCH AT 50 HRC.
NO DECARBURIZATION.
QUENCH & TEMPER (HARDEN) TO SURFACE HARDNESS OF 60-64 HRC AND CORE HARDNESS 30-42 HRC.
COLD TREAT & RE-TEMPER YES/NO YES
SPLINE HARDNESS TO BE MINIMUM 50 HRC
SIGNATURE:



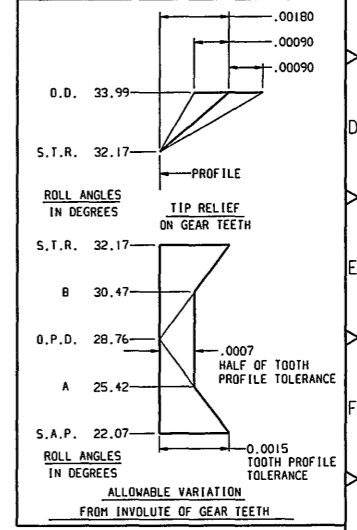
DETAIL A
SCALE 32 = 1



SECTION A-A



MK-1 GEAR



DIMENSION TOLERANCES UNLESS OTHERWISE SPECIFIED	
DIMENSIONS	TOLERANCE
MACHINING WORK	
1 PLACE DECIMAL	± 0.1
2 PLACE DECIMAL	± 0.02
3 PLACE DECIMAL	± 0.005
STANDARD SURFACE FINISH 250 MICRO BREAK ALL SHARP EDGES TO 1/64 X 45°	
WELDING WORK	
UNDER 30" LONG	± 1/16
30" TO UNDER 60" LONG	± 1/8
60" LONG AND OVER	± 3/16
FLAME CUTTING	UNDER 6 FEET AND OVER 6 FEET
3/16" TO 1" THK	± 1/16 ± 3/32
1" TO 4" THK	± 1/8 ± 1/8
4" THK & OVER	± 1/8 ± 3/16

548F523	STANDARD	SPECIAL	B	564G191
---------	----------	---------	---	---------

181105

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

REV	DESCRIPTION	DATE
1	REVISIONS	
2	DESCRIPTION	
3	(ZONE-WAS-BY-DATE)	

INTERNAL SPLINE (INVOLUTE, FLAT ROOT, MAJOR DIAMETER FIT)
MIN. EFFECTIVE 0.1983 (REF)
MAX. EFFECTIVE 0.1983 (REF)
MIN. ACTUAL 0.1983 (REF)
MAX. ACTUAL 0.1983 (REF)
CIRCULAR SPACE WIDTH
NUMBER OF TEETH 21
PITCH 8.716
PRESSURE ANGLE 30
BASE DIAMETER 2.2733 (REF)
MEASUREMENT BETWEEN 2.3107 **
TWO PINS 2.3079 **
PIN DIAMETER 0.2160
PROFILE TOLERANCE -0.0005 (REF)
(ZERO AT PITCH DIAMETER -0.0007 (REF))
TOTAL INDEX TOLERANCE 0.0018 (REF)
LEAD TOLERANCE 0.0005
LENGTH OF ENGAGEMENT 2.1650
IDENTIFICATION OF MATING SPLINE: CAT# 492138 DRG# 564G118 MK 1

NOTES
 1. NO FINISHING OF TOOTH PROFILE AFTER HEAT TREAT
 2. **CUT PIN MEASUREMENT .005 FOR HEAT TREATMENT SHRINKAGE.

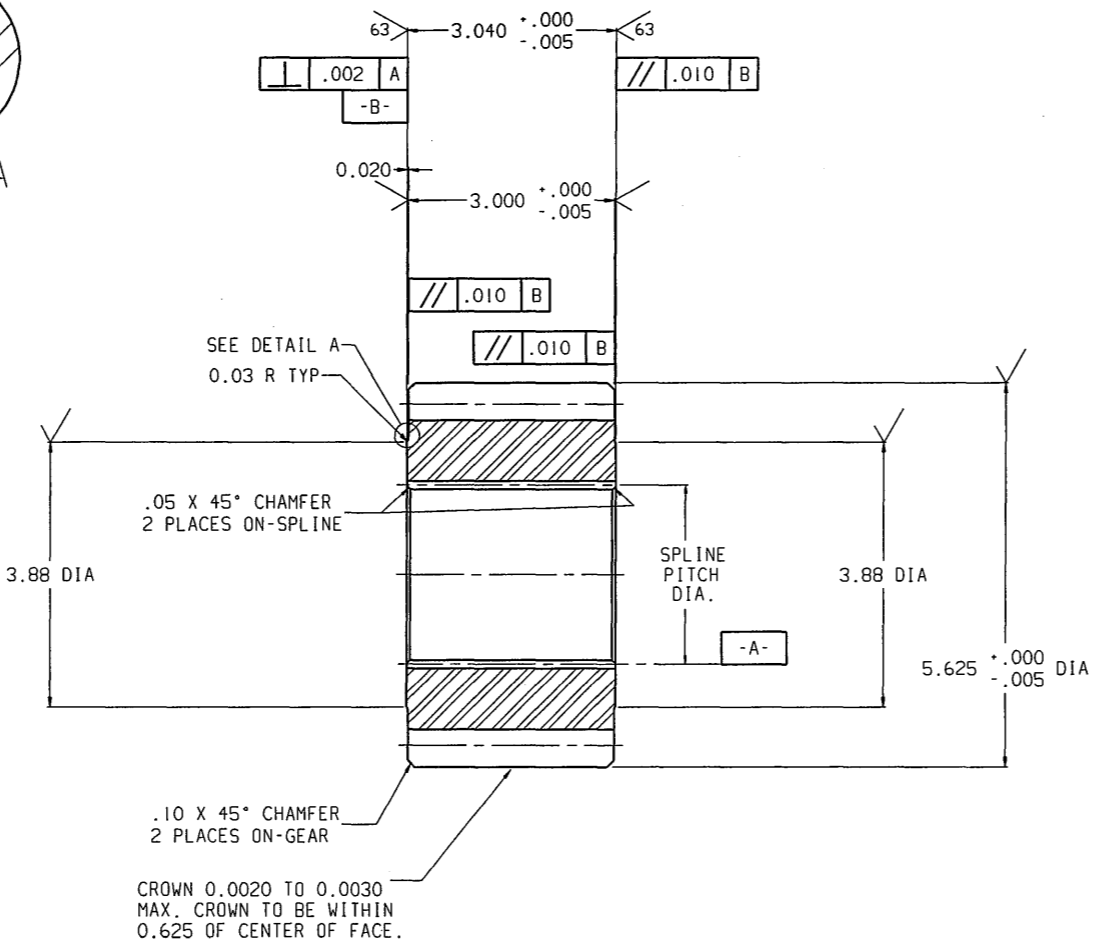
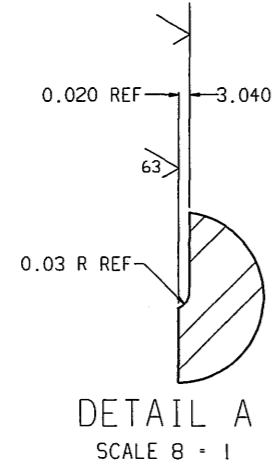
TYPE OF GEAR	EXTERNAL	SPUR	INVOLUTE
NO. OF TEETH	20		
DIAMETRAL PITCH	4		
TYPE OF TEETH	FULL DEPTH		
TYPE OF ROOT	FULL FILLET		
PRESSURE ANGLE	25°	HOB POSITION	0.0625
ADDENDUM	0.3125	WHOLE DEPTH (APPROX.)	0.5625
OUTSIDE DIAMETER (SPECIAL?)	NO		5.6250
BASE CIRCLE DIAMETER			4.5315
TOOTH THICKNESS REDUCTION FOR BACKLASH			0.0035
IDENTIFICATION OF MATING GEAR CAT. NO. 492131 DRG. NO. 564G192 MK. 1 CENTER DISTANCE 6.8113			

CARBURIZE CASE HEAT TREAT SPECIFICATIONS
 SPECIFY AREA TO BE HEAT TREATED; GEAR TEETH AND
 INTERNAL SPLINE
 REFER TO DETAIL/MK_001

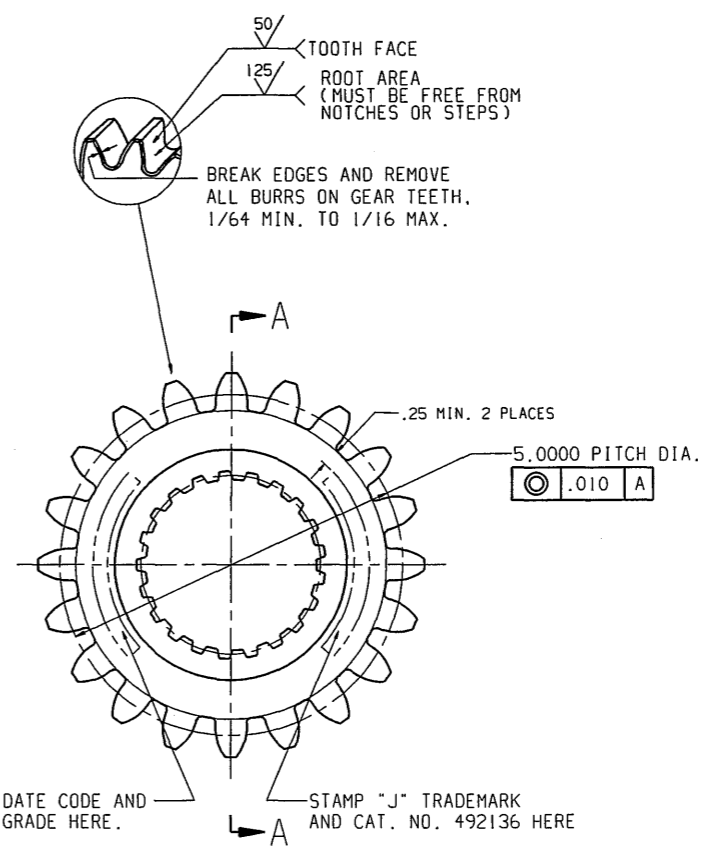
CARBURIZE TO EFFECTIVE CASE DEPTH OF
 .040-.055 INCH AT 50 HRC.
 NO DECARBURIZATION.
 QUENCH & TEMPER (HARDEN) TO SURFACE HARDNESS
 OF 60-64 HRC AND CORE HARDNESS 30-42 HRC.
 COLD TREAT & RE-TEMPER YES/NO YES
 SPLINE HARDNESS TO BE MINIMUM 50 HRC
 SIGNATURE:

INSPECTION DATA (AFTER HEAT TREATMENT)
SPAN MEASUREMENT OF 3 TEETH (ALLOWABLE VARIATION ON ANY ONE GEAR 0.001 MAX) 1.9650 -0.0000 -0.0049
CHORDAL ADDENDUM 0.3225
CHORDAL THICKNESS 0.4469 -0.0000 -0.0049
MEASUREMENT OVER 0.4800 DIAMETER PINS 5.8401
5.8318
ROLL ANGLE TO START OF ACTIVE PROFILE 16.8925
CENTER DISTANCE WITH - TOOTH
MASTER GEAR N/A
AGMA CLASS #8 GEAR PER AGMA 309.03 JAN 1973
AGMA CLASS #6 FOR LEAD TOLERANCE ONLY
RUNOUT TOLERANCE 0.0043
PITCH TOLERANCE 0.0010
TOOTH PROFILE TOLERANCE 0.0015
LEAD TOLERANCE 0.0016
TOOTH TO TOOTH COMPOSITE TOLERANCE 0.0019
TOTAL COMPOSITE TOLERANCE 0.0062

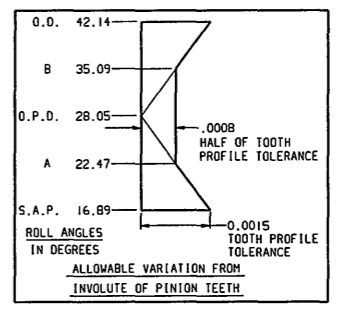
564G197	THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF DBT AMERICA INC. NEITHER THE DOCUMENT NOR ITS CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR, EXPRESS WRITTEN PERMISSION OF DBT AMERICA INC.	DBT AMERICA PO BOX 1879, COLUMBUS, OHIO 43216
	DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	20T 4P SPUR PINION 30M
SCALE 1:1	SCALE DRAWING	
DRAWN COLE DATE 9/27/01 DIRECTED ZYCH	CUSTOMER	
CHECKED COLE DATE 9/27/01 APPROVED	ORDER NO	
QUANT MATERIAL MK	DESCRIPTION	CAT NO ORIG DRG MK
1 4820H 2	20T 4P SPUR PINION	492136
	FORGING PINION #98517	548F529 I



SECTION A-A



MK-1 PINION



DIMENSION TOLERANCES UNLESS OTHERWISE SPECIFIED		
DIMENSIONS	TOLERANCE	
MACHINING WORK		
1 PLACE DECIMAL	±/-. 0.1	
2 PLACE DECIMAL	±/-. 0.02	
3 PLACE DECIMAL	±/-. 0.005	
STANDARD SURFACE FINISH 250 MICRO BREAK ALL SHARP EDGES TO 1/64 X 45°		
WELDING WORK		
UNDER 30" LONG	±/-. 1/16	6 FEET AND OVER
30" TO UNDER 60" LONG	±/-. 1/8	
60" LONG AND OVER	±/-. 3/16	
FLAME CUTTING		
3/16" TO 1" THK	±/-. 1/16	±/-. 3/32
1" TO 4" THK	±/-. 3/32	±/-. 1/8
4" THK & OVER	±/-. 1/8	±/-. 3/16

564G198	564G197	564G197
---------	---------	---------

181090

DRAWING NUMBER 564B859		SHEET 1		DBT AMERICA		P.O. BOX 1879 COLS. OHIO 43216	
				REVISIONS			
				GIVE MK-INITIALS-DATE			
				A CHGD MKS 17.19-21.62.			
				66.67.77.85.110-112.			
				118-120.125-127.			
				ADDED MK 18: DELETED			
				MK 80: REH 04/30/02			
				B MKS-48. 71. 72			
				DMR 2-03-03			
				C MK-100 RPZ 10/1/03			
				D MK-58.59 RPZ 2/12/04			
				DRAWN			
				COLE DATE 11/10/01			
				DIRECTED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			
				DRAWN			
				COLE DATE 11/10/01			
				APPROVED			
				ZYCH			
				FOR METHODS CHECK SEE			
				548B634			

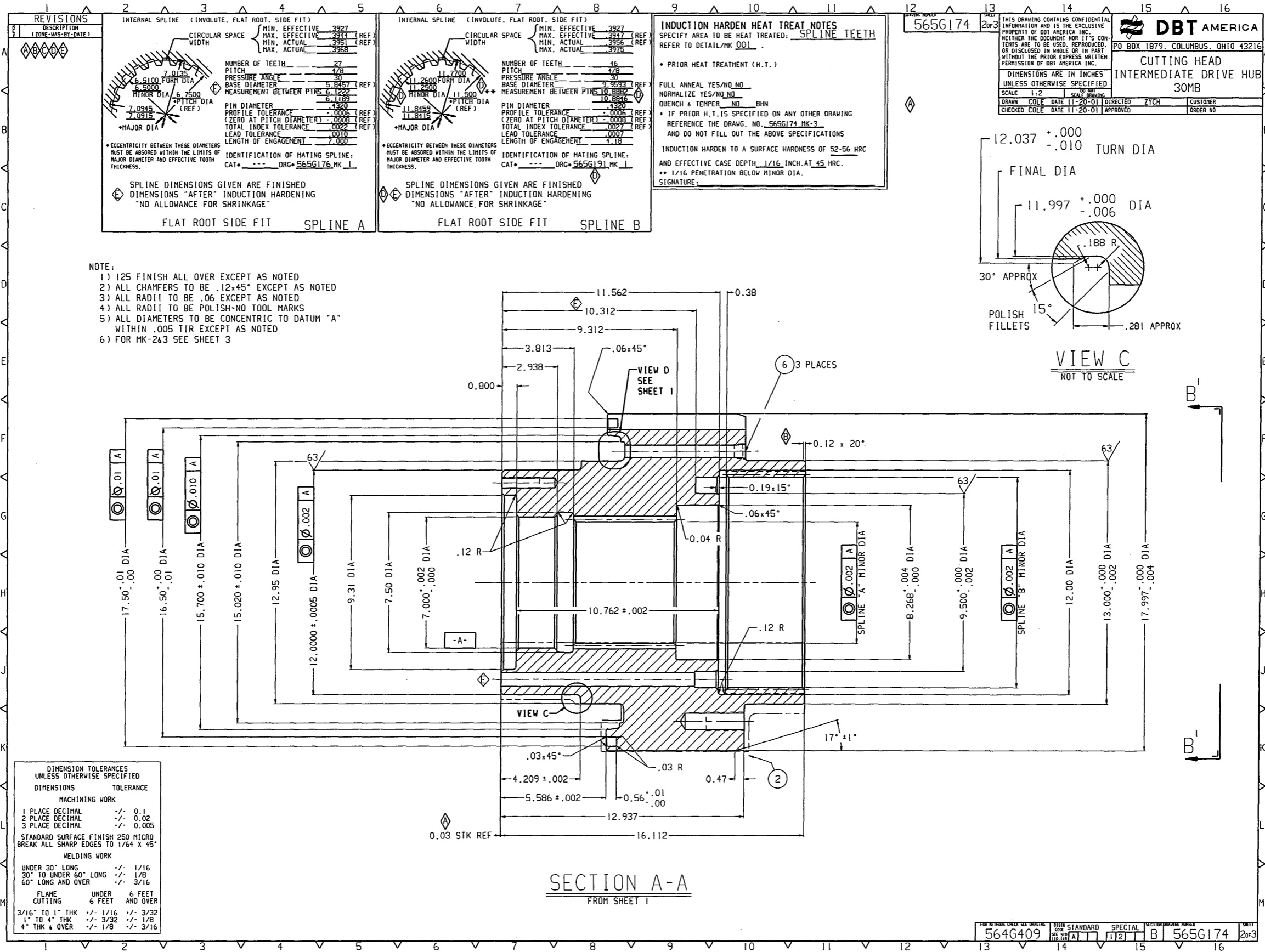
CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL



260126

REVISIONS	
NO.	DESCRIPTION (ZONE-WAS- BY-DATE)
A	AFFECTS SHEETS 1&2
	ADDED KEYWAYS
	FRITZ COLE 6-3-02
B	SH 2 L-13 NEW SEAL
	GROOVE DESIGNED
	DETAIL B VIEW CORRECTED
	SH 2 B-11 WAS: 2.184
	SH 2 E-12 WAS: 11.75
	SH 2 E-13 WAS: 12.418
	SH 2 E-13 WAS: 13.000
	SH 2 E-14 WAS: 13.875
	SH 1 B-14 & L-3 WAS:
	LH FINISHED DRIVE DRUM
	E-3 WAS: 60°
	ROLFE 3-18-03

DIMENSION TOLERANCES UNLESS OTHERWISE SPECIFIED		
DIMENSIONS	TOLERANCE	
MACHINING WORK		
1 PLACE DECIMAL	±	0.1
2 PLACE DECIMAL	±	0.02
3 PLACE DECIMAL	±	0.005
STANDARD SURFACE FINISH 250 MICRO		
BREAK ALL SHARP EDGES TO 1/64 X 45°		
WELDING WORK		
UNDER 30" LONG	±	1/16
30" TO UNDER 60" LONG	±	1/8
60" LONG AND OVER	±	3/16
FLAME CUTTING		
UNDER 6 FEET		6 FEET AND OVER
3/16" TO 1" THK	±	1/16
1" TO 4" THK	±	3/32
4" THK & OVER	±	1/8
	±	3/16

- NOTE:
- 1) "IMPORTANT" ALL BURNING AND WELDING MUST BE COMPLETED BEFORE FINAL MACHINING (SEE ORDER-UNIT 240-CUTTING ELEMENTS)
 - 2) MILLED SLOTS REQUIRED FOR CLEARANCE FOR FILL, LEVEL & DRAIN PLUGS (SEE ORDER-UNIT 240-DRUM MODIFICATION)
 - 3) MK-3 HAS ALREADY BEEN HEAT TREATED TO 302/341 BHN
 - 4) 125 FINISH ALL OVER EXCEPT AS NOTED
 - 5) ALL RADII TO BE POLISHED-NO TOOL MARKS
 - 6) ALL DIAMETERS TO BE CONCENTRIC TO DATUM "A" WITHIN .005 TIR EXCEPT AS NOTED
 - 7) WEIGHT REFLECTS MACHINING REMOVAL ONLY (NO BIT BLOCKS)

565G201 1 of 2

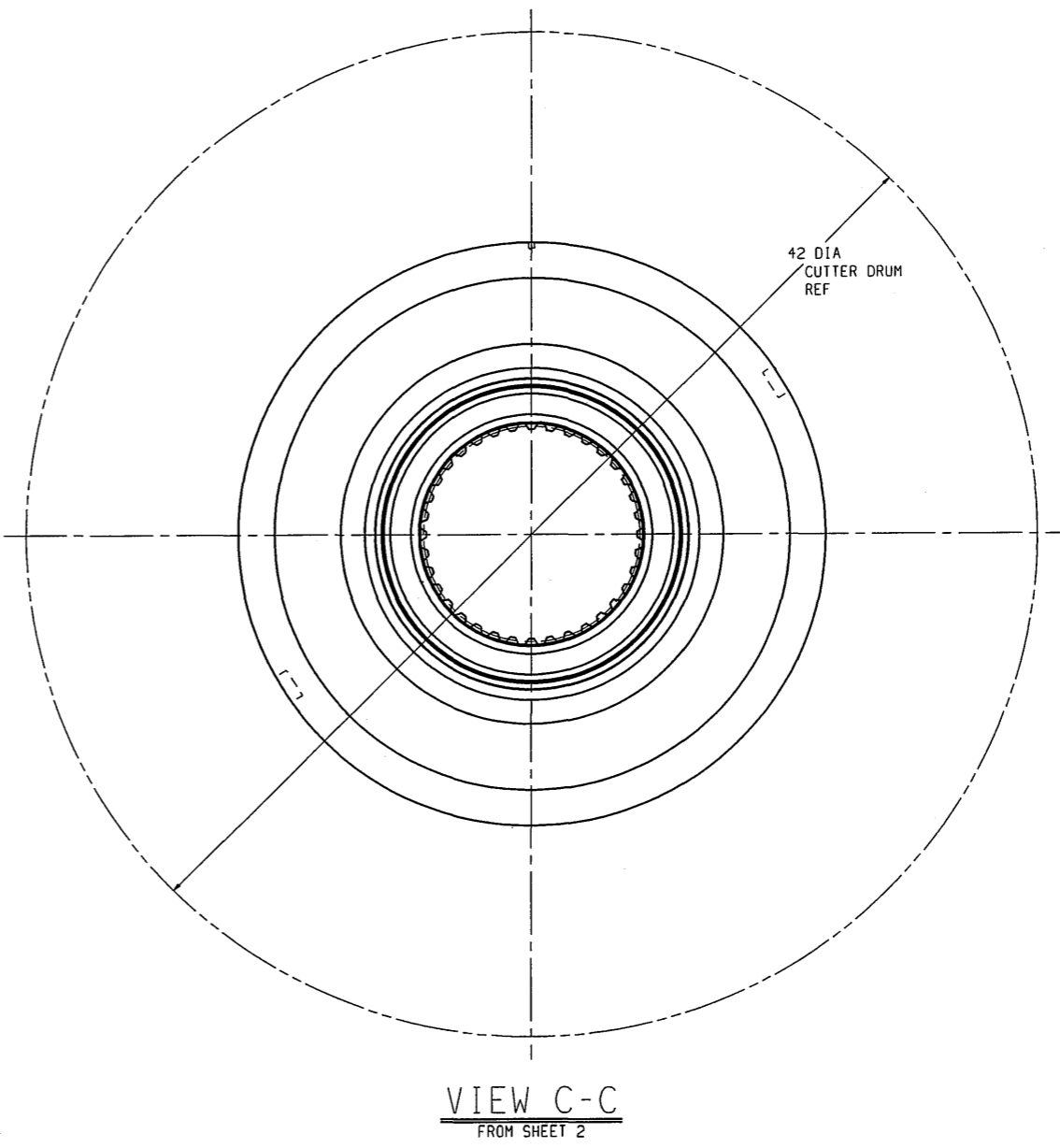
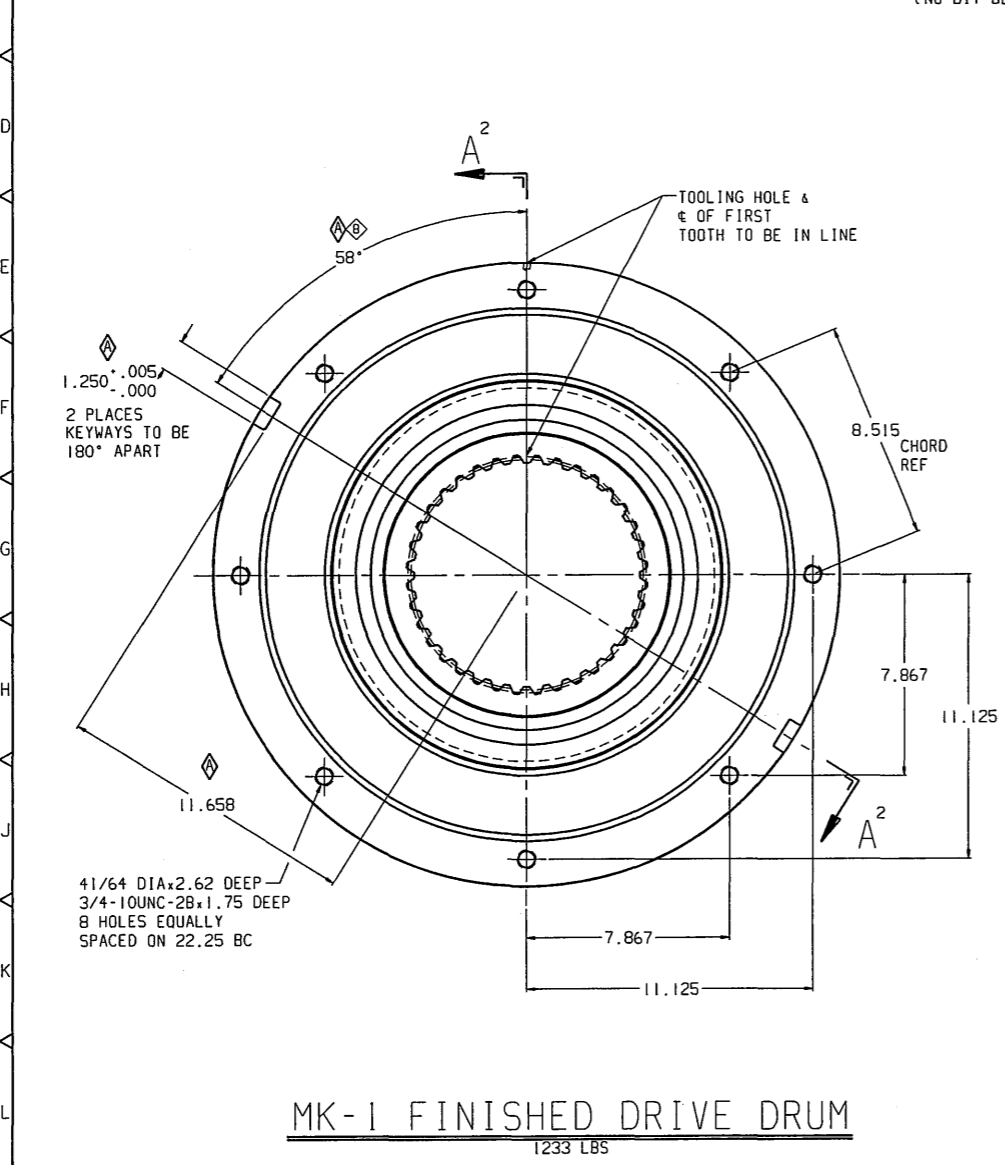
THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF DBT AMERICA INC. NEITHER THE DOCUMENT NOR IT'S CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF DBT AMERICA INC.

DBT AMERICA
PO BOX 1879 COLUMBUS, OHIO 43216

4.8M CH PULL-IN
FINISHED DRIVE DRUM
30MB

SCALE	DATE	DIRECTED	APPROVED	CUSTOMER
3:8	4/16/02	ZYCH		
3:8	4/16/02			

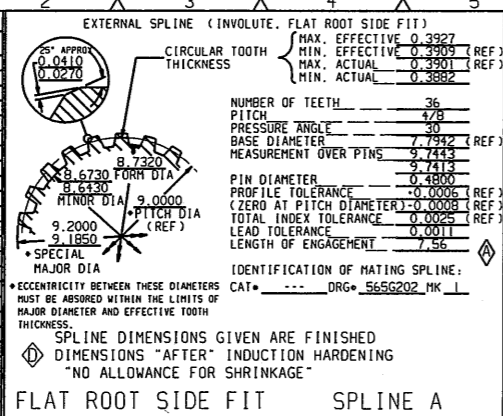
QUANT	MATERIAL	DESCRIPTION	CAT NO	DRTG	DRG MK
1		FINISHED DRIVE DRUM			
1		WELDMENT, DRIVE DRUM		565G199	2



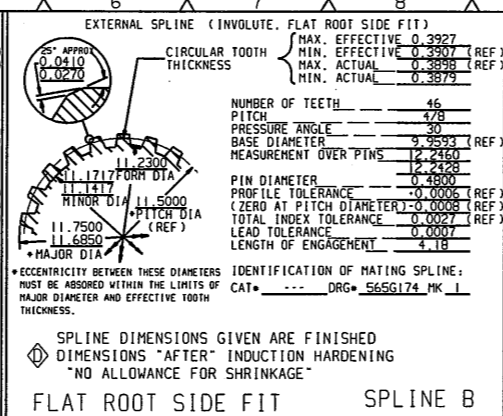
FOR REVISIONS ONLY USE NUMBERING	DATE	BY	STANDARD	SPECIAL	SECTION	REVISIONS	DATE	BY
565G202					B			

257439

REV	DESCRIPTION
1	APPROVED 0.0410 0.0270
A	AFFECTS SHTS 1&2
B	FRITZ COLE 4-10-02
C	SHT 1.G-6 WAS:
D	SPLINE TEETH SPACE IN LINE WITH TOOLING HOLE
E	ROLFE 5-29-02
F	SHT 1.G-5 WAS: VIEW CORRECTED ON SPLINE "A".
G	SPLINE TOOTH SPACE
H	ROLFE 10-1-02
I	SHT 1.G-5 WAS: VIEW
J	SHT 1.C-2 & C-6 NOTES CHANGED. SEE REVISION SHEET
K	SHT 2. L-2 VIEW C. REMOVED "O" RING GROOVE & DIMS.
L	SHT 2.H-10 WAS: 30.310
M	SHT 2.B-13 WAS: 4.500
N	SHT 2.B-13 WAS: 3.56
O	SHT 2.C-13 WAS: 3.31
P	SHT 2.C-13 WAS: 1.81
Q	SHT 2.D-13 WAS: 1.62
R	SHT 2.D-13 REMOVED: 0.62
S	SHT 2.F-15 WAS: 9.504
T	ROLFE 2-6-03



EXTERNAL SPLINE (INVOLUTE, FLAT ROOT SIDE FIT)
 CIRCULAR TOOTH THICKNESS
 NUMBER OF TEETH: 36
 PITCH: 4.78
 PRESSURE ANGLE: 30
 BASE DIAMETER: 7.7942 (REF)
 MEASUREMENT OVER PINS: 9.7413
 PIN DIAMETER: 0.4800
 PROFILE TOLERANCE: -0.0005 (REF)
 (ZERO AT PITCH DIAMETER)
 TOTAL INDEX TOLERANCE: 0.0025 (REF)
 LEAD TOLERANCE: 0.0011
 LENGTH OF ENGAGEMENT: 7.56
 IDENTIFICATION OF MATING SPLINE: CAT. --- DRG. 565G202 MK 1
 *ECCENTRICITY BETWEEN THESE DIAMETERS MUST BE ASSURED WITHIN THE LIMITS OF MAJOR DIAMETER AND EFFECTIVE TOOTH THICKNESS.
 SPLINE DIMENSIONS GIVEN ARE FINISHED DIMENSIONS "AFTER" INDUCTION HARDENING "NO ALLOWANCE FOR SHRINKAGE"
 FLAT ROOT SIDE FIT SPLINE A

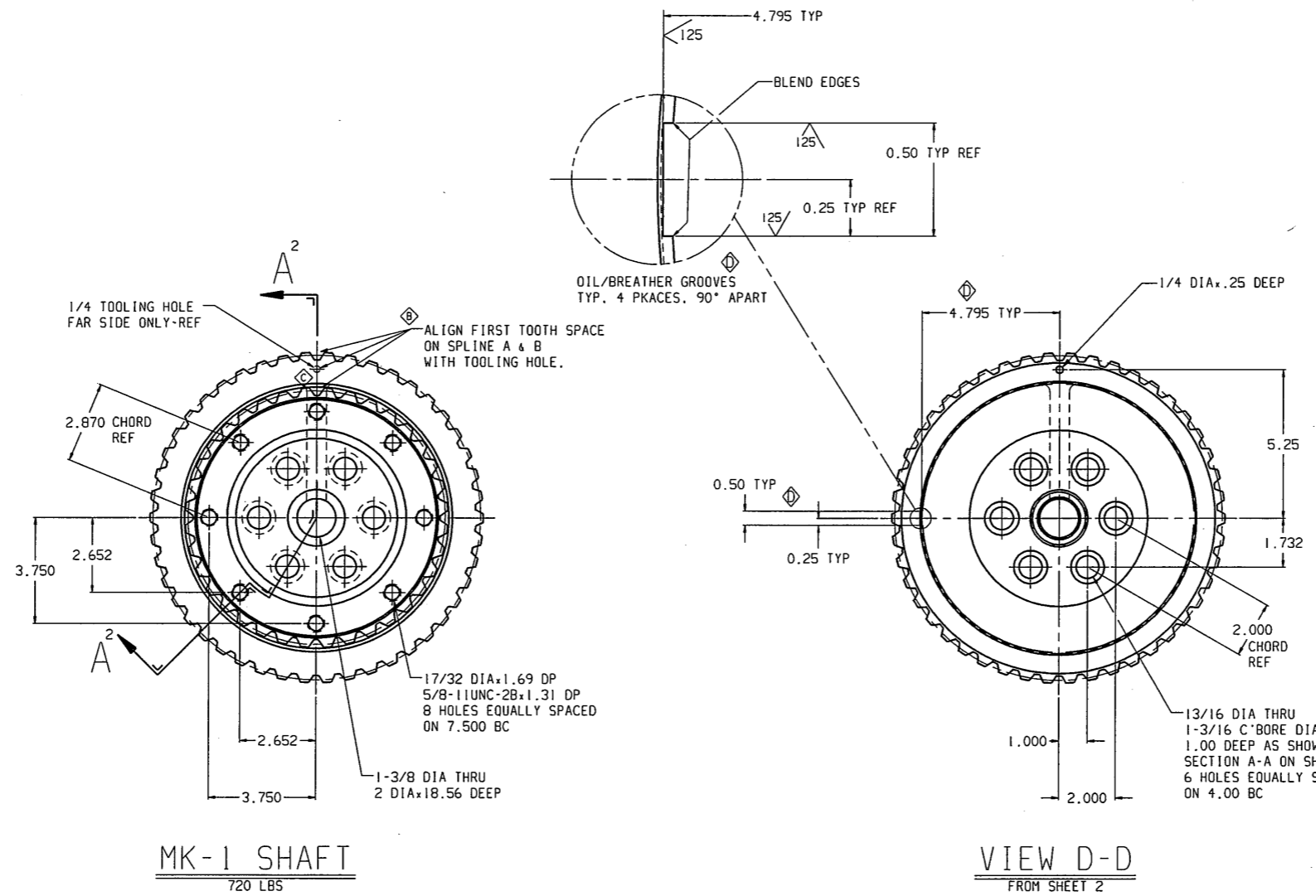


EXTERNAL SPLINE (INVOLUTE, FLAT ROOT SIDE FIT)
 CIRCULAR TOOTH THICKNESS
 NUMBER OF TEETH: 46
 PITCH: 4.78
 PRESSURE ANGLE: 30
 BASE DIAMETER: 9.9593 (REF)
 MEASUREMENT OVER PINS: 12.2460
 PIN DIAMETER: 0.4800
 PROFILE TOLERANCE: -0.0005 (REF)
 (ZERO AT PITCH DIAMETER)
 TOTAL INDEX TOLERANCE: 0.0027 (REF)
 LEAD TOLERANCE: 0.0007
 LENGTH OF ENGAGEMENT: 4.18
 IDENTIFICATION OF MATING SPLINE: CAT. --- DRG. 565G174 MK 1
 *ECCENTRICITY BETWEEN THESE DIAMETERS MUST BE ASSURED WITHIN THE LIMITS OF MAJOR DIAMETER AND EFFECTIVE TOOTH THICKNESS.
 SPLINE DIMENSIONS GIVEN ARE FINISHED DIMENSIONS "AFTER" INDUCTION HARDENING "NO ALLOWANCE FOR SHRINKAGE"
 FLAT ROOT SIDE FIT SPLINE B

565G191
 INDUCTION HARDEN HEAT TREAT NOTES
 SPECIFY AREA TO BE HEAT TREATED: SPLINES**A AND B
 REFER TO DETAIL/MK -001 FOR PATTERN.
 * PRIOR HEAT TREATMENT (H.T.)
 FULL ANNEAL YES/NO ___
 NORMALIZE YES/NO ___
 QUENCH & TEMPER 321/363 BHN.
 * IF PRIOR H.T. IS SPECIFIED ON ANY OTHER DRAWING REFERENCE THE DRAWG. NO. 565G192 MK-3 AND DO NOT FILL OUT THE ABOVE SPECIFICATIONS
 INDUCTION HARDEN TO A SURFACE HARDNESS OF 52/56 HRC AND EFFECTIVE CASE DEPTH 1/16 INCH. AT 45 HRC.
 ** 1/16 PENETRATION BELOW MINOR DIA.
 SIGNATURE: _____

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF DBT AMERICA INC. NEITHER THE DOCUMENT NOR ITS CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF DBT AMERICA INC.	
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	
SCALE: 1:2	SCALE DRAWING
DRAWN: COLE	DATE: 1/8/01
DIRECTED: ZYCH	CUSTOMER: ORDER NO.
CHECKED: COLE	DATE: 1/8/01
APPROVED: _____	DATE: _____
QUANT: 1	MATERIAL: 11 SHAFT
1	4140
2	FORGING SHAFT
3	
4	
5	

NOTE:
 1) 125 FINISH ALL OVER EXCEPT AS NOTED
 2) ALL RADII TO BE POLISHED-NO TOOL MARKS
 3) ALL DIAMETERS TO BE CONCENTRIC TO DATUM "A" WITHIN .002 TIR UNLESS NOTED

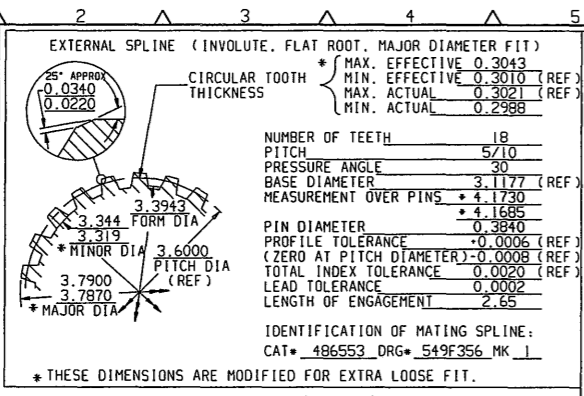


DIMENSION TOLERANCES UNLESS OTHERWISE SPECIFIED	
DIMENSIONS	TOLERANCE
MACHINING WORK	
1 PLACE DECIMAL	± 0.1
2 PLACE DECIMAL	± 0.02
3 PLACE DECIMAL	± 0.005
STANDARD SURFACE FINISH 250 MICRO. BREAK ALL SHARP EDGES TO 1/64 X 45°	
WELDING WORK	
UNDER 30" LONG	± 1/16
30" TO UNDER 60" LONG	± 1/8
60" LONG AND OVER	± 3/16
FLAME CUTTING	UNDER 6 FEET AND OVER
3/16" TO 1" THK	± 1/16 ± 3/32
1" TO 4" THK	± 3/32 ± 1/8
4" THK & OVER	± 1/8 ± 3/16

FOR METHODS CHECK SEE DRAWING	STANDARD	SPECIAL	SELECTOR DRAWING NUMBER	SHEET
---	---	---	B 565G191	1 of 2

204093

REVISIONS	DESCRIPTION
A	G-1 WAS: 6.408
	J-6 WAS: 1.560
	J-7 WAS: 1.655
	J-8 WAS: 0.735
	G-12 WAS: 4.53
	G-10 WAS: 3.483
	K-7 WAS: 8.497
	ROLFE 4-25-91
B	C-12 REMOVED:
	EVERY 60 DEG.
	ON A 2.000 B.C.
	C-12, D-12, E-14
	& E-15 ADDED DIMS
	H-14 ADDED
	DETAIL I
	ROLFE 5-25-91
C	B-7: .661
	ROLFE 6-18-91
D	B-7: .271
	D-3 REMOVED: 2.061
	±.004±.004 TURN DIA
	E-14 ADDED TAP
	HOLE NOTE
	A-8 ADDED NOTE
	ROLFE 7-25-91
E	E-11 WAS 1/2-13
	RPZ 9/4/91
F	B-7 WAS 11
	E-3 WAS 9.983
	G-1 WAS 6.979
	G-2 WAS .233
	G-3 WAS 2.0010
	±.0005/±.0000
	H-5 WAS 9.3732
	J-5 ADDED 10.177
	±.002/±.002
	J-8 WAS .804
	H-12 WAS .06 X 45
	CHAM.
G	G-7 WAS 3.9395
	±.0000/±.0020
	A-8 REMOVED NOTE
	R55 1/20/92
H	H-12 WAS .03X45°
	CHAM. D-3 WAS 2 PLC'S
	SKC. 10-16-92
I	A-8 WAS .012/016
	SKC. 11-2-92
J	C-12 ADD SPEC TAP
	GEO 8/25/93



1. TYPE OF GEAR	STRAIGHT BEVEL
2. SHAFT ANGLE	90°
3. NUMBER OF TEETH	13
4. DIAMETRAL PITCH	2.25
5. PRESSURE ANGLE	20°
6. TOOL EDGE RADIUS	.107
7. ADDENDUM (THEORETICAL)	.630
8. WHOLE DEPTH (THEORETICAL)	.974
9. CIRCULAR TOOTH THICKNESS (REF)	.867
10. CHORDAL ADDENDUM	.661
11. CHORDAL THICKNESS (after backlash is cut)	.857
12. BACKLASH (with control gear)	.0127 .020
13. CIRCULAR THICKNESS FACTOR (gleason k factor)	.075
14. AGMA QUALITY NUMBER	8
15. IDENTIFICATION OF MATING GEAR: 43 TEETH	CAT. 486555 DWG. 549F362 MK. 1

note: these dimensions are for reference in developing the pair of mating gears. they do not include allowance for centering; developed dimensions may be obtained from the factory set up sheet. the control gear is cut with backlash.

this is the preferred contact pattern on a completed gear run on a test machine, under light load, with a control gear.

CARBURIZE CASE HEAT TREAT SPECIFICATIONS
 SPECIFY AREA TO BE HEAT TREATED: BEVEL PINION AND SPLINE
 REFER TO DETAIL/MK_001 FOR PATTERN.

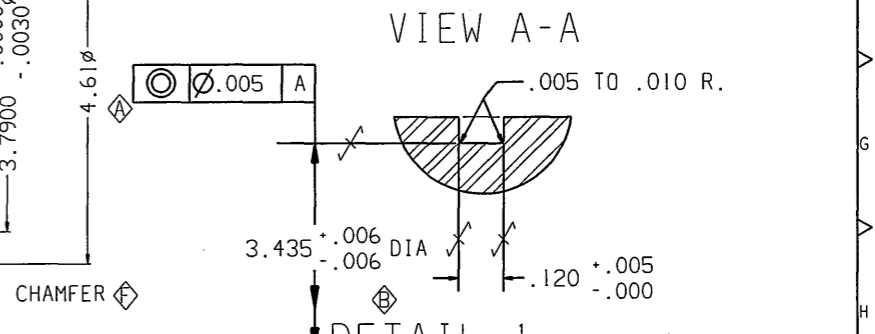
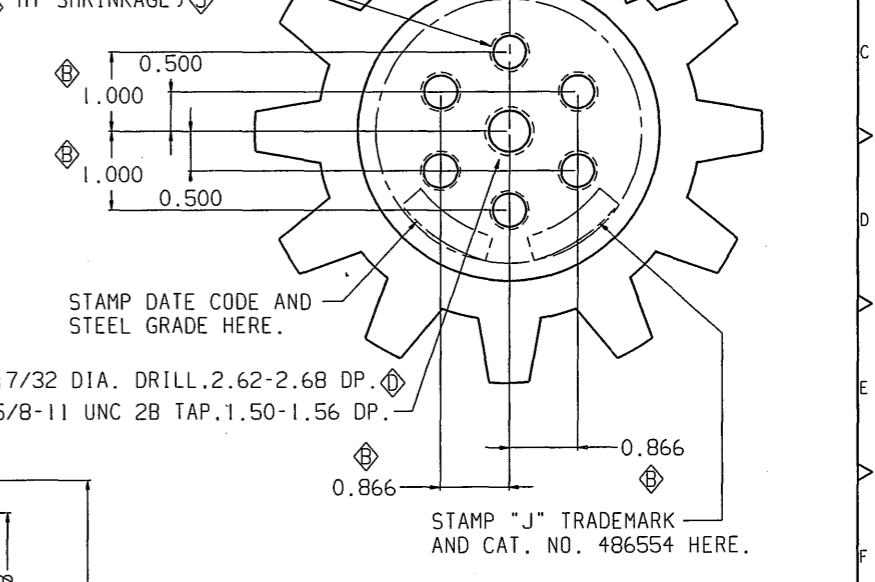
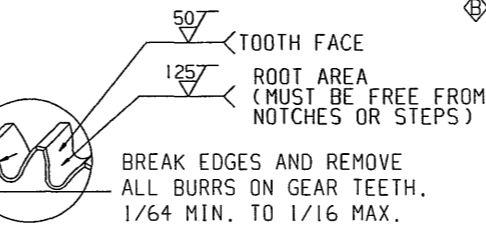
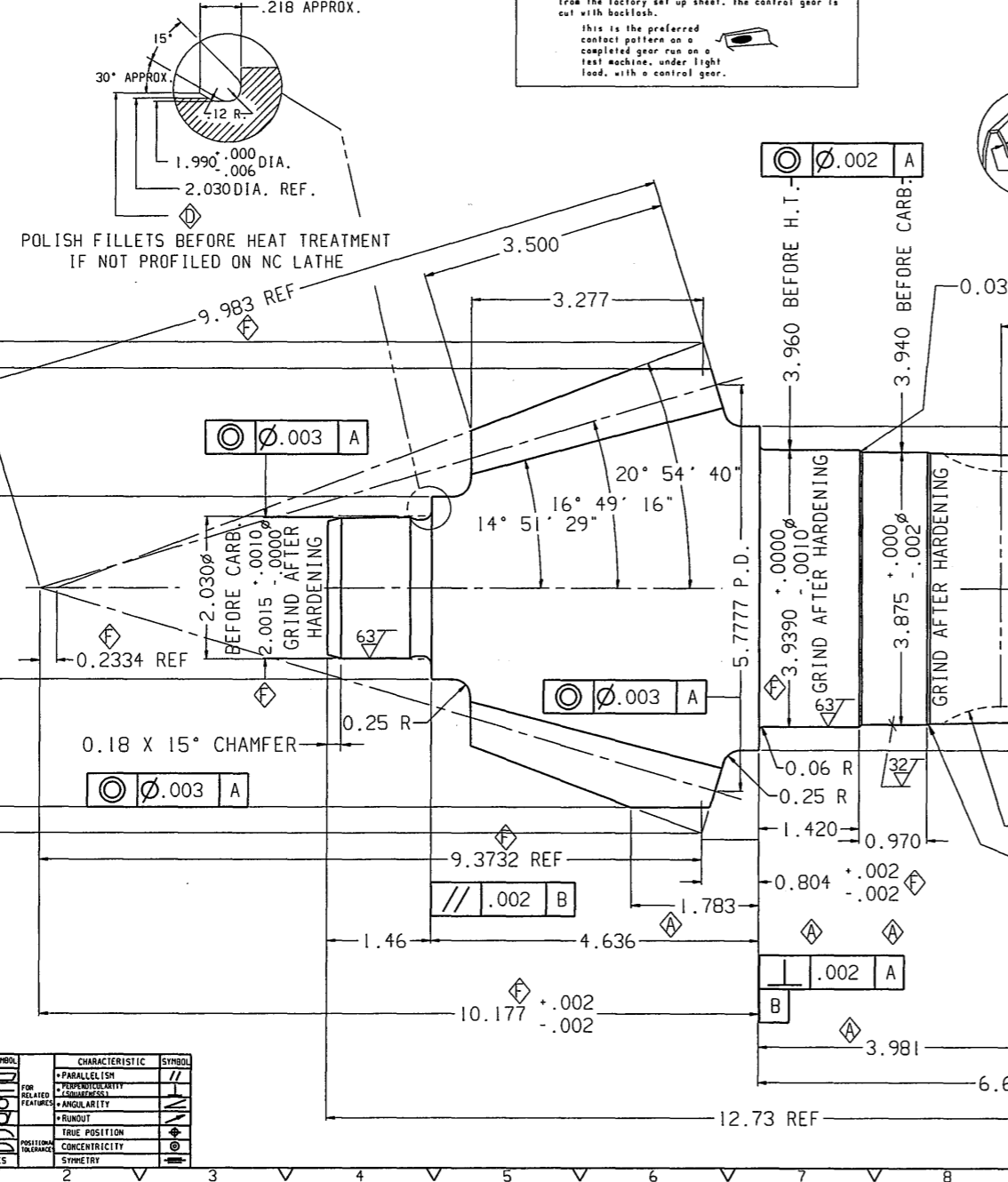
CARBURIZE TO EFFECTIVE CASE DEPTH OF .055-.070 INCH AT 50 HRC.
 NO DECARBURIZATION.
 QUENCH & TEMPER (HARDEN) TO SURFACE HARDNESS OF 60-64 HRC AND CORE HARDNESS 34-42 HRC.
 COLD TREAT & RE-TEMPER YES/NO YES.

SIGNATURE: _____

NOTES
 1. NO FINISHING OF TOOTH PROFILE AFTER HEAT TREAT

27/64 DIA. DRILL
 2.40-2.50 DEEP THEN
 9/16 DIA. DRILL
 .75-.87 DEEP THEN
 .505-13 UNC 2B TAP
 X 2.00-2.12 DEEP
 (SPECIAL TAP FOR HT SHRINKAGE)

QUANT.	MATERIAL	MK	DESCRIPTION	CAT. NO.	ORIG. ORG.	MK
1	1	1	13T PINION	486554	549F363	1
2	2	2	PINION FORGING	98543	549F363	1
3	3	3				
4	4	4				
5	5	5				



DIMENSION TOLERANCES UNLESS OTHERWISE SPECIFIED	
MACHINE WORK	
DIMENSIONS	TOLERANCE
1 PLACE DECIMAL	±.1
2 PLACE DECIMAL	±.02
3 PLACE DECIMAL	±.005
WELDMENTS	
MACHINING ROUGHNESS	
UNDER 30 LG	±.1/16
30 TO UNDER 60 LG	±.1/8
60 LG AND OVER	±.3/16
FLAME CUTTING UNDER 6 FT 6 FT & OVER	
.18 TO .99 THK	±.1/16 ±.3/32
1.00 TO 3.99 THK	±.1/8 ±.1/8
4.00 & OVER THK	±.1/8 ±.3/16
BREAK ALL SHARP EDGES TO 1/64 X 45°	

CHARACTERISTIC	SYMBOL	CHARACTERISTIC	SYMBOL
FLATNESS	[Symbol]	PARALLELISM	[Symbol]
STRAIGHTNESS	[Symbol]	PERPENDICULARITY	[Symbol]
ROUNDNESS (CIRCULARITY)	[Symbol]	ANGULARITY	[Symbol]
CYLINDRICITY	[Symbol]	ROUNDNESS	[Symbol]
PROFILE OF ANY LINE	[Symbol]	TRUE POSITION	[Symbol]
PROFILE OF ANY SURFACE	[Symbol]	CONCENTRICITY	[Symbol]
GEOMETRIC FORM TOLERANCES	[Symbol]	SYMMETRY	[Symbol]

FOR METRODS CHECK-SEE DRG. DIST. STD. SPECIAL: B 549F361

180800

REVISIONS	
NO.	DESCRIPTION (ZONE HAS-BY-DATE)
A	H-4, H-13 MOT. BOLTS VIEW CHANGE MOTOR PROFILE VIEW CHANGE, REV 06/03/03

567G548

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF DBT AMERICA INC. NEITHER THE DOCUMENT NOR ITS CONTENTS ARE TO BE USED, REPRODUCED, OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF DBT AMERICA INC.

DBT AMERICA
PO BOX 1879, COLUMBUS, OHIO 43216

GATHERING HEAD LUBE ASSEMBLY
30M2

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

SCALE 3:16

DRAWN REH DATE 03/17/03 DIRECTED ZYCH CUSTOMER
CHECKED RPZ DATE 03/17/03 APPROVED ORDER NO

CRITICAL NOTES!!!

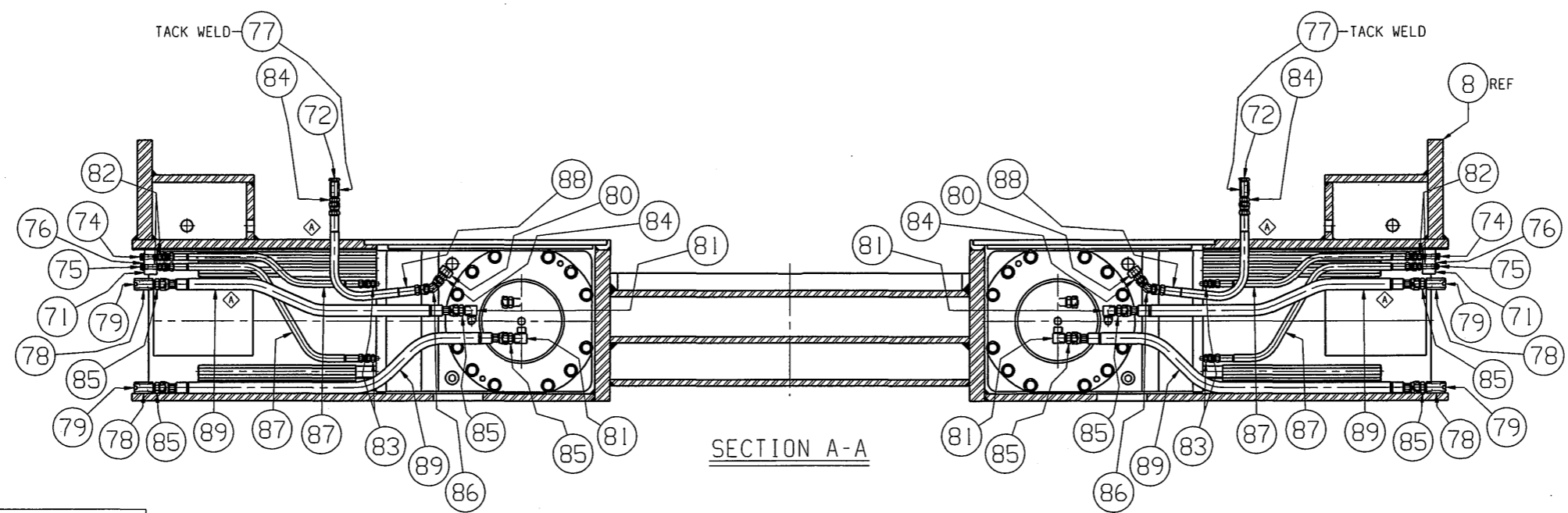
ALL MOTOR LUBE HOSES AND VENT HOSES ARE TO BE FILLED WITH HIGH TEMPERATURE ELECTRIC MOTOR GREASE BEFORE ASSEMBLING THEM TO THE ELECTRIC MOTOR. THE INTENT OF THIS IS TO INSURE THAT THERE ARE NO AIR GAPS BETWEEN THE GREASE NIPPLE AND THE POINT WHERE THE GREASE IS FLUSHED OUT TO THE ATMOSPHERE.

CRITICAL NOTE!!! BEFORE WELDING MK-78 PIPE COUPLING IN PLACE, MAKE SURE MOTOR CAN BE REMOVED. SEE ZONE J-2 AND J-15.

NOTE: ELECTRIC MOTOR GREASE MUST BE: NLGI 2 W/LITHIUM COMPLEX THICKENER AND 500°F (260°C) MIN. DROP POINT

NOTES:

1. SEE DRAWING 567B510 FOR IDENTIFICATION OF MK. NUMBERS.
2. FOR LOCATION OF SECTION A-A SEE DRAWING 567G547.
3. FOR ASSEMBLY INSTRUCTIONS SEE DRAWING 567G543.
4. USE THIS DRAWING IN CONJUNCTION WITH DRAWINGS 567G542, 567G543, 567G544, 567G545, 567G546 AND 567G547.



SECTION A-A

MK-1 GATHERING HEAD CLA ASSEMBLY
17000 lbs

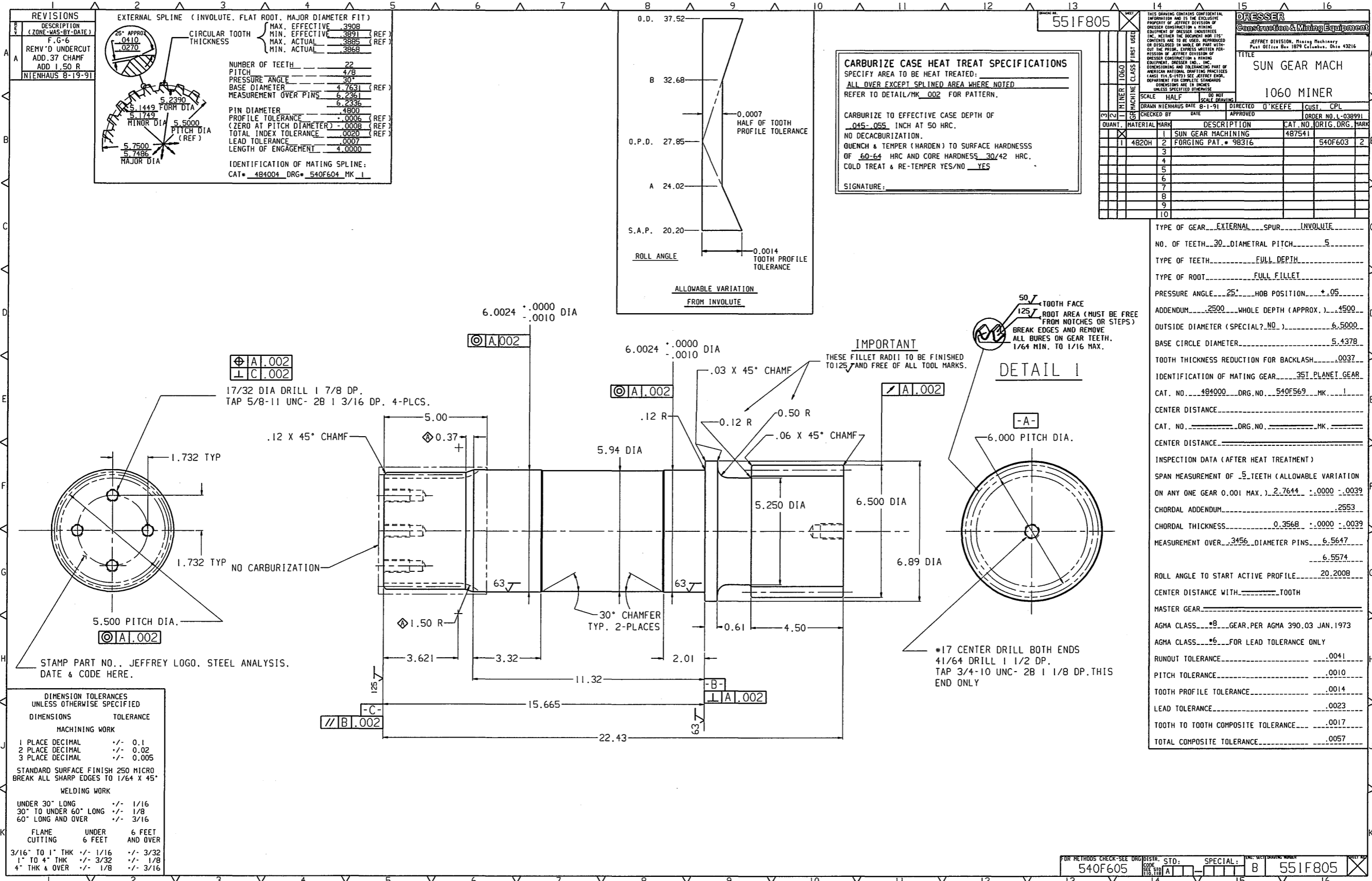
DIMENSION TOLERANCES UNLESS OTHERWISE SPECIFIED		
DIMENSIONS	TOLERANCE	
MACHINING WORK		
1 PLACE DECIMAL	± 0.1	
2 PLACE DECIMAL	± 0.02	
3 PLACE DECIMAL	± 0.005	
STANDARD SURFACE FINISH 250 MICRO		
BREAK ALL SHARP EDGES TO 1/64 X 45°		
WELDING WORK		
UNDER 30" LONG	± 1/16	
30" TO UNDER 60" LONG	± 1/8	
60" LONG AND OVER	± 3/16	
FLAME CUTTING		
UNDER 6 FEET	± 1/16	
6 FEET AND OVER	± 3/32	
3/16" TO 1" THK	± 1/16	± 3/32
1" TO 4" THK	± 3/32	± 1/8
4" THK & OVER	± 1/8	± 3/16

565G886

FOR METRIC CHECK SEE DRAWING

565G886

567G548



167982

REVISIONS	
NO.	DESCRIPTION (ZONE-WAS-BY-DATE)
B-3	ADDED HEAT TREAT NOTES
C-4	ADDED NOTE TO SPLINE NOTES
H-4	H-9: DIM WAS
D-14	DIM WAS
L-65	
C-MOODY	9-11-91

INDUCTION HARDEN HEAT TREAT NOTE

SPECIFY AREA TO BE HEAT TREATED: SPLINES ONLY
REFER TO DETAIL/MK 1 FOR PATTERN

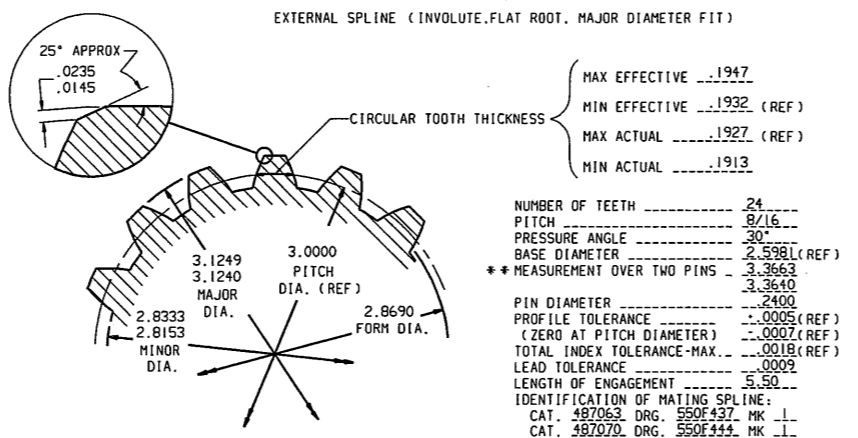
* PRIOR HEAT TREATMENT (H.T.)

NORMALIZE YES/NO NO
NORMALIZE & TEMPER NO BHN
QUENCH & TEMPER 321-363 BHN

* IF "PRIOR H.T." IS SPECIFIED ON ANY OTHER DRAWING REFERENCE THE DRAWING NO. AND DO NOT FILL OUT THE ABOVE SPECIFICATIONS

INDUCTION HARDEN TO A SURFACE HARDNESS OF 52/56 HRC AND EFFECTIVE CASE DEPTH TO 1/16 INCH AT 45 HRC

SIGNATURE _____



- EXTERNAL SPLINE (INVOLUTE, FLAT ROOT, MAJOR DIAMETER FIT)
- MAX EFFECTIVE .1947
 - MIN EFFECTIVE .1932 (REF)
 - MAX ACTUAL .1927 (REF)
 - MIN ACTUAL .1913
- NUMBER OF TEETH 24
PITCH 8/16
PRESSURE ANGLE 30°
BASE DIAMETER 2.5981 (REF)
** MEASUREMENT OVER TWO PINS 3.3663
3.3640
PIN DIAMETER .2400
PROFILE TOLERANCE .0005 (REF)
(ZERO AT PITCH DIAMETER) .0007 (REF)
TOTAL INDEX TOLERANCE-MAX. .0018 (REF)
LEAD TOLERANCE .0009
LENGTH OF ENGAGEMENT 5.50
IDENTIFICATION OF MATING SPLINE:
CAT. 487063 DRG. 550F437 MK 1
CAT. 487070 DRG. 550F443 MK 1

** CUT SPLINES TO 3.3640 \pm 0.000/-0.001 TO ALLOW FOR GROWTH AFTER INDUCTION HARDENING MAJOR DIA. SHOULD BE GROUND AFTER INDUCTION HARDENING TO BE MAINTAINED 3.1249/3.1240.

550F443

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF JEFFREY DIVISION OF DRESSER CONSTRUCTION & MINING EQUIPMENT OF DRESSER INDUSTRIES INC. NEITHER THE DOCUMENT NOR ITS CONTENTS ARE TO BE USED, REPRODUCED OR DISCLOSED IN WHOLE OR PART WITHOUT THE PRIOR, EXPRESS WRITTEN PERMISSION OF JEFFREY DIVISION OF DRESSER CONSTRUCTION & MINING EQUIPMENT. DRESSER IND., INC. DIMENSIONING AND TOLERANCING PART OF AMERICAN NATIONAL DRAFTING PRACTICES (ANSI Y14.5-1973) SEE JEFFREY ENGR. DEPARTMENT FOR COMPLETE STANDARDS. DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE.

DRESSER
Construction & Mining Equipment

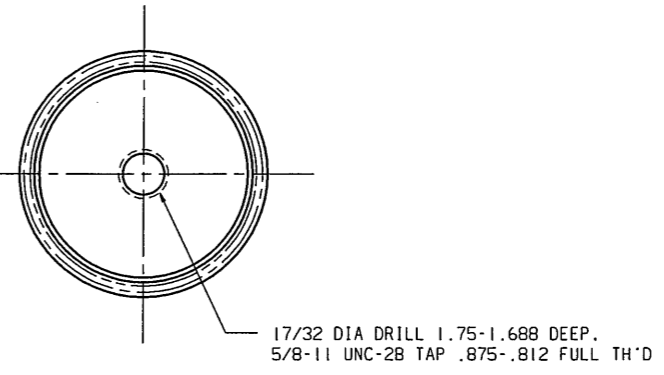
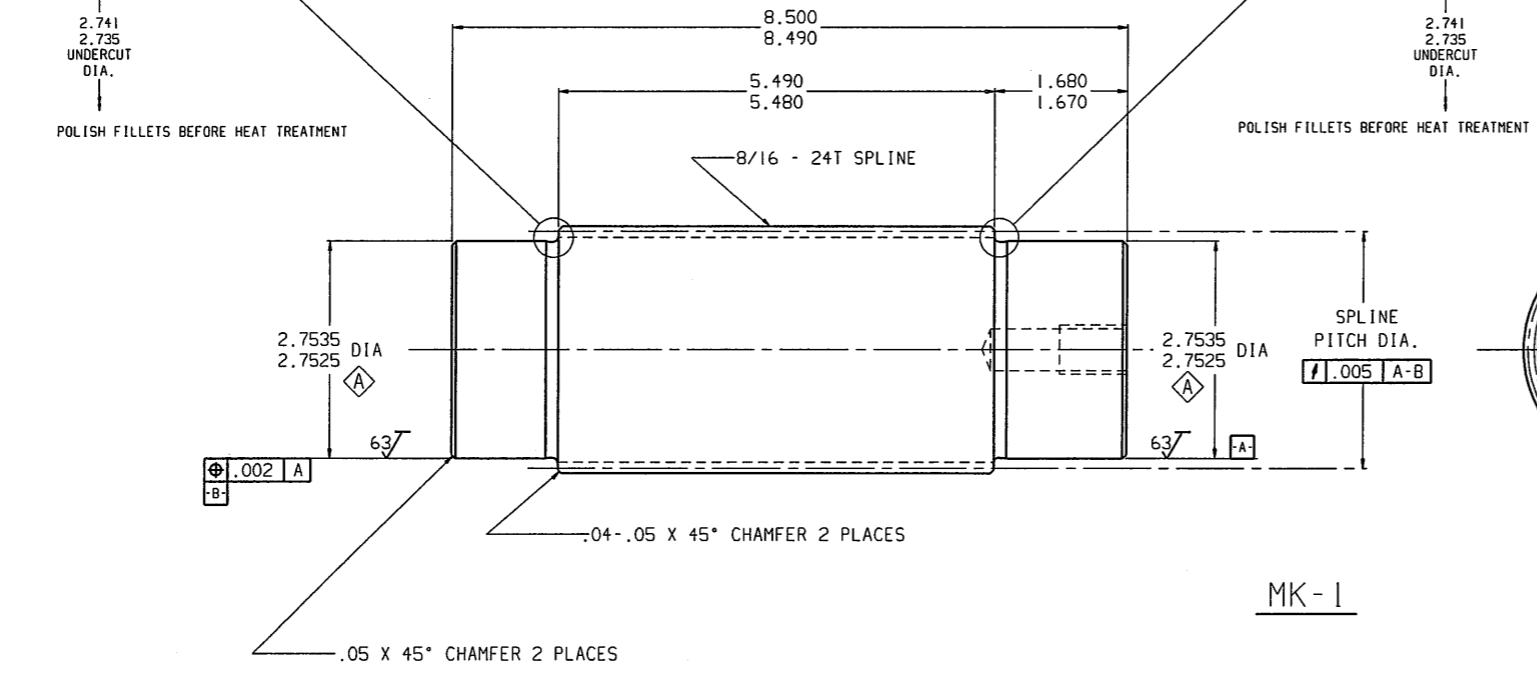
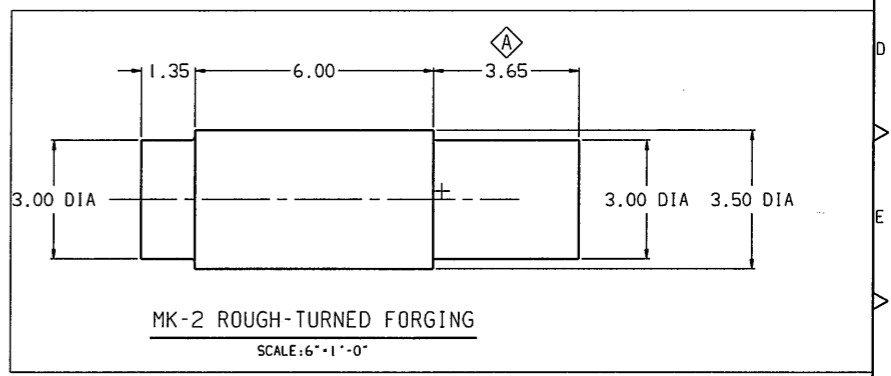
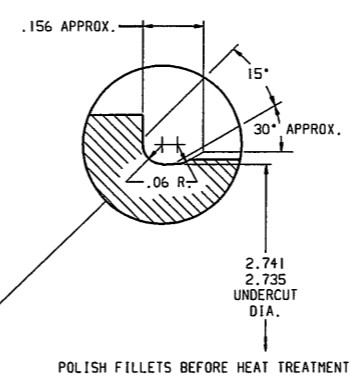
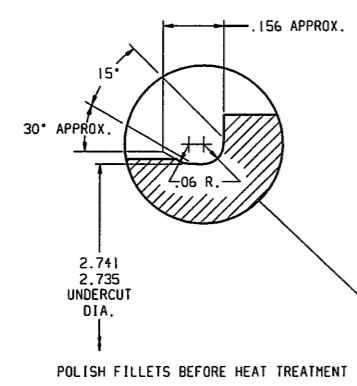
JEFFREY DIVISION, Mining Machinery
Post Office Box 1079 Colton, Ohio 43216

TITLE
INTERMEDIATE SHAFT
1060 MINER

SCALE 12" = 1'-0" (DO NOT SCALE DRAWING)
DRAWN: B. BOND DATE: 3/14/91 DIRECTED: LEVENSTEIN (CUST.)

QUANT.	MATERIAL	MK	DESCRIPTION	CAT. NO.	ORIG. DRG.	MK
1	4340H	2	SHAFT FORGING-ROUGH-TURNED	98597		
		1	INTERMEDIATE SHAFT	487069		

- NOTES:
- BREAK ALL SHARP EDGES.
 - FINISH ALL OVER $\sqrt{125}$ UNLESS OTHERWISE SPECIFIED.



FOR METHODS CHECK-SEE DRG. DISTR. STD. SPECIAL: B 550F443

540F737	CODE	FILE	550F443
---------	------	------	---------

180552
180746

ORDER FIRST USED ON	1060	MINER CLASS	1
REVISIONS	GIVE MK. INITIALS-DATE		

DESIGNED BY NIENHAUS DATE 10/1/87 DIRECTED BY HESS
 CHECKED DATE APPROVED *M. J. H. 10/1/87* FOR METHODS CHECK - SEE DRGS. 519B321

QUAN.	MATL.	MK.	DESCRIPTION	CAT. NO.	ORIG. DRG. MK.
1	HD HTL	1	GATH HD GEAR CASE ASSY DRG	540F887	
2		2	13T BEVEL PINION	447983	175E161 2
1		3	SUPPORT SHAFT	97664 448000	175E159 2
1		4	DISK CRANK	448030	175F186 2
1		5	BEARING RETAINER	448148	175E162 1
1		6	COVER	97659 447980	175E163 1
1		7	COVER	97658 447981	175E165 1
3		8	DOMEL	448147	175D164 1
1		9	GASKET	448146	175E193 2
2		10	BEARING KEEPER	97656 483993	540F884 2
2		11	SEAL CARRIER	447986	175E167 1
6		12	SHIM .005 (FOR MK 10)	448081	175E192 7
6		13	SHIM .007 (FOR MK 10)	448082	175E192 8
2		14	SHIM .020 (FOR MK 10)	448083	175E192 9
3		15	SHIM .005 (FOR MK 5)	448078	175E192 4
3		16	SHIM .007 (FOR MK 5)	448079	175E192 5
1		17	SHIM .020 (FOR MK 5)	448080	175E192 6
1		18	GASKET (FOR MK 7)	448145	175E193 1
3		19	SHIM .005 (FOR MK 3)	448075	175E192 1
3		20	SHIM .007 (FOR MK 3)	448076	175E192 2
1		21	SHIM .020 (FOR MK 3)	448077	175E192 3
2		22	DUO CONE SEAL (CATERPILLER 455001)	440063	C440063 1
1		23	DUO CONE SEAL (CATERPILLER 404510)	447962	C447962 1
1		24	GEAR CASE FINISHED	448074	175E228 2
1		25	TIMKEN CONE #JHM 522649	68909	521.710
1		26	TIMKEN CUP #JHM 522610	68910	521.710
1		27			
1		28	POLYOIL BEARING SET (SKF)	70609	C70609
2		29	TIMKEN CONE #56425	172177	521.710
2		30	TIMKEN CUP #56650	171501	521.710
2		31	TIMKEN CONE #529X	68994	521.710
2		32	TIMKEN CUP #522	158211	521.710
2		33	SNAP RING	64081	527.712
2		34	"O" RING 1/8 X 3 7/8 O.D.	185377	531.462
8	GR 5	35	5/8-11 HEX HD CAP SCREW 1 1/4 LG	68837	C68837
20	GR 5	36	5/8-11 HEX HD CAP SCREW 1 1/2 LG	67795	561.321
4	GR 5	37	3/4-10 HEX HD CAP SCREW 2 1/2 LG	67326	561.321
8	GR 5	38	1-8 HEX HD CAP SCREW 3 1/2 LG	67993	561.321
20		39	5/8 SPRING LOCK WASHER	23356	561.731
1	#46	40	1/16 DIA. SOFT IRON WIRE 7'-0" LG		

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION AND IS THE EXCLUSIVE PROPERTY OF JEFFREY MINING MACHINERY DIVISION DRESSER INDUSTRIES, INC. NEITHER THE DOCUMENT NOR ITS CONTENTS ARE TO BE USED, REPRODUCED OR DISCLOSED IN WHOLE OR PART WITHOUT THE PRIOR EXPRESS WRITTEN PERMISSION OF JEFFREY MINING MACHINERY DIVISION DRESSER INDUSTRIES, INC.
 DISTR. CODE STD: SPECIAL: ENG. SEC. PRINT LOCATION ORDER NO
 SEE DRG. 199A333 A - - - - - B 1060 L038633

TITLE R. H. GATHERING HEAD GEAR CASE ASM 1060 MINER
 SHOW TOTAL NUMBER OF SHEETS ON SHEET 1 ONLY
 DRAWING NO. 540 B 885 SHEET NO. 1 OF 2 SHEETS
 JEFFREY MINING MACHINERY DIVISION • DRESSER INDUSTRIES INC. • COLUMBUS, OHIO 43216 U.S.A. (REVISED) 40-21 Form 976

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL