

Guard-Flex Flywheel Coupling

Service & Installation Instructions

P-8603-GC
GUA-MRK-DOC-012



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IMPORTANT READ ALL NOTICES & WARNINGS BEFORE ATTEMPTING ANY INSTALLATION!

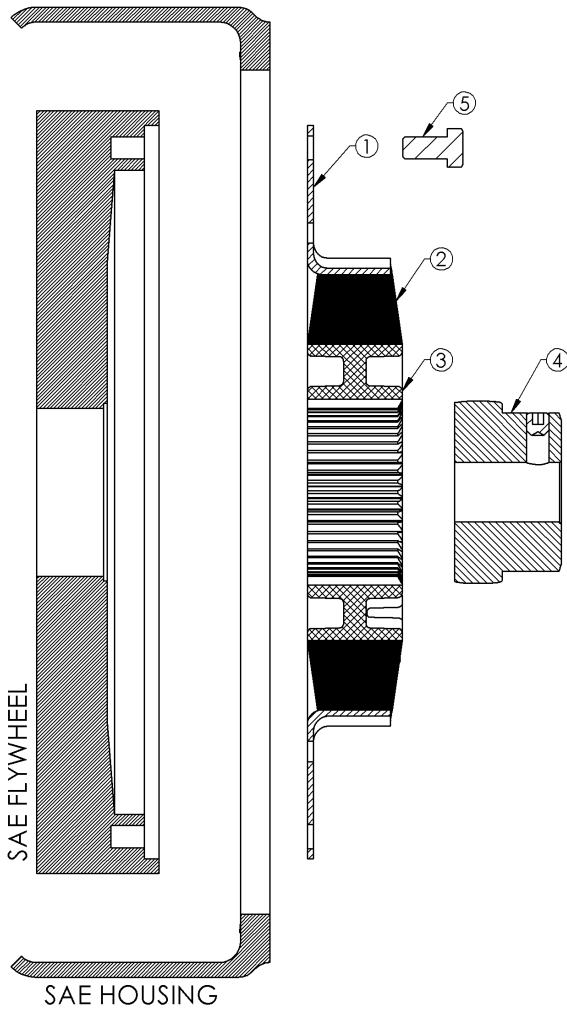
NOTICES:

- PLEASE CAREFULLY READ OVER AND UNDERSTAND INSTRUCTIONS BEFORE ATTEMPTING ANY MAINTENANCE. IF ADDITIONAL ASSISTANCE IS NEEDED PLEASE CONTACT GUARDIAN BEFORE SERVICING/INSTALLING THE PRODUCT.
- WHILE GUARDIAN MAKES EVERY EFFORT TO ENSURE THE ACCURACY OF THE INFORMATION PROVIDED, WE MAKE NO WARRANTY AS TO THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. THE INFORMATION PROVIDED CORRESPONDS TO THE INSTALLATION STANDARDS AT THE TIME OF PRINTING.
- THESE INSTALLATION INSTRUCTIONS ACT AS GENERAL GUIDELINES, AND DO NOT COVER EVERY SCENARIO. IF YOUR INSTALLATION DOES NOT APPLY, PLEASE CONTACT GUARDIAN TO FURTHER REVIEW YOUR APPLICATION TO ENSURE PROPER INSTALLATION IS COMPLETED.
- ENSURE PROPER SIZING AND OFFSETS TO AVOID CAUSING DAMAGE TO THE MACHINERY AND/OR COUPLING.
- KEEP COUPLINGS FREE OF DUST AND GRIME TO ENSURE LONG LIFE.
- VERIFY APPLICATION DATA AND REVIEW TORQUE SPECIFICATIONS, MIS-ALIGNMENT, AND APPLICATION SERVICE FACTORS. IF FURTHER ASSISTANCE IS NEEDED PLEASE CONTACT GUARDIAN COUPLINGS.
- HUBS THAT ARE MODIFIED OR MACHINED BY THE CUSTOMER ARE NOT COVERED UNDER THE STANDARD WARRANTY TERMS. IF MODIFICATIONS ARE MADE BY THE CUSTOMER IT IS RECOMMENDED THAT THE CUSTOMER ADHERES TO GUARDIAN MACHINING STANDARDS TO ENSURE PROPER OPERATION.
- FBA COUPLINGS ARE CONSIDERED A ONE-PIECE COUPLING DESIGN, DO NOT DISASSEMBLE COUPLING

WARNINGS:

- DISENGAGE ALL POWER TO NECESSARY MACHINERY BEFORE PERFORMING ANY WORK ON THE ASSEMBLY. MAKE SURE NO ACCIDENTAL ENGAGEMENT CAN OCCUR.
- IMPROPER USE OR INSTALLATION MAY RESULT IN SERIOUS INJURY OR DEATH. GUARDIAN COUPLINGS WILL NOT BE LIABLE FOR IMPROPER USE/INSTALLATION OF THE PRODUCTS. THE PURCHASER/INSTALLER IS RESPONSIBLE FOR PROPER INSTALLATION, SAFEGUARDS, MAINTENANCE AND OPERATION OF THE PRODUCT AND EQUIPMENT.
- ANY MODIFICATIONS TO INSTRUCTIONS AND/OR COUPLING CHARACTERISTICS MAY RESULT IN A PREMATURE FAILURE.
- MAKE SURE THAT THE COUPLING IS NOT IN CONTACT WITH ANY NON-ROTATING SURFACES.
- IF ANY PROBLEMS OCCUR DURING ASSEMBLY, CONTACT GUARDIAN COUPLINGS IMMEDIATELY.
- THIS PRODUCT CONTAINS WEAR ELEMENTS THAT WILL EVENTUALLY FAIL. MAKE SURE THE ASSEMBLY IS ADEQUATELY COVERED/ENCLOSED TO AVOID INJURY IN CASE OF A FAILURE.
- WARNING: THIS PRODUCT MAY CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND/OR BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

SECTION 1 – COUPLING OVERVIEW



ITEM NUMBER	ITEM DESCRIPTION
1	GUARD-FLEX COUPLING FLANGE
2	GUARD-FLEX BONDED ELEMENT
3	GUARD-FLEX COUPLING SLEEVE
4	GUARD-FLEX COUPLING HUB
5	COUPLING MOUNTING HARDWARE*

*SHOWN FOR REFERENCE ONLY – NOT INCLUDED WITH COUPLING

FIGURE 1.1 GUARD-FLEX COUPLING CROSS SECTION

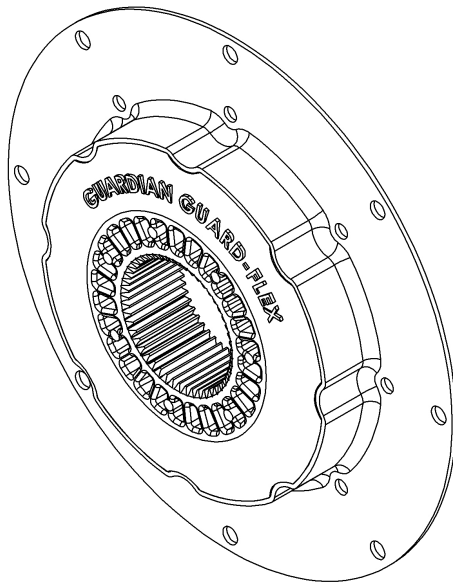


FIGURE 1.2 GUARD-FLEX FLYWHEEL (PUMP SIDE)

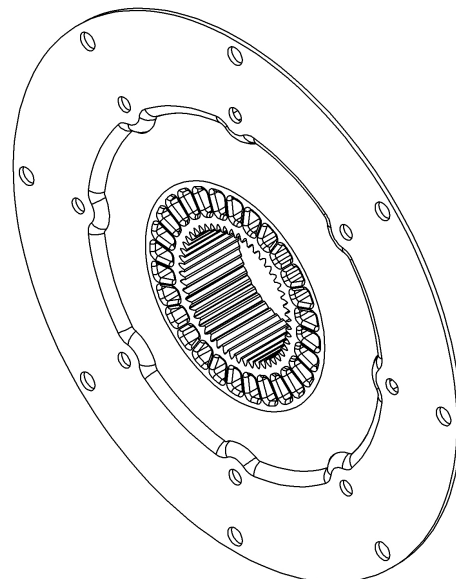


FIGURE 1.3 GUARD-FLEX FLYWHEEL (ENGINE SIDE)

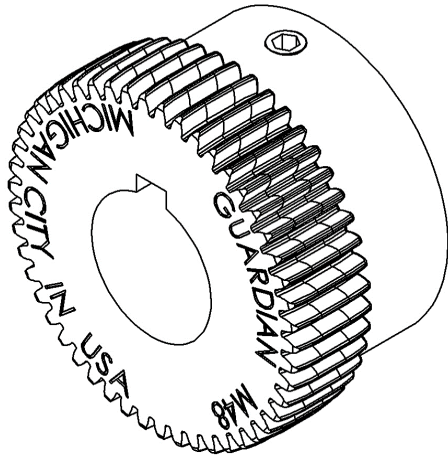


FIGURE 1.4 GUARD-FLEX COUPLING HUB (TOOTH END)

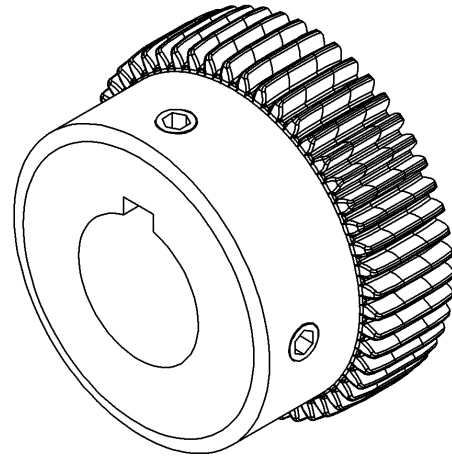


FIGURE 1.5 GUARD-FLEX COUPLING HUB (BODY END)

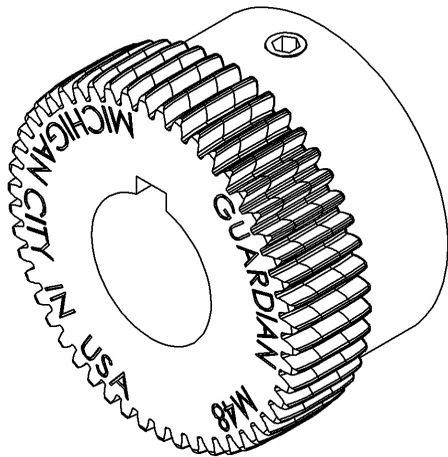


FIGURE 1.6 BORE & KEYWAY

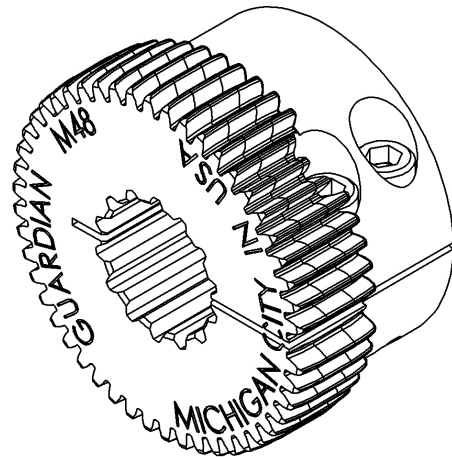


FIGURE 1.7 CROSS CLAMP

SECTION 2 - TOOLS/MATERIAL REQUIRED

- TORQUE WRENCH
- ALLEN SOCKETS
- CALIPERS
- MEDIUM STRENGTH REMOVABLE LOCTITE

SECTION 3 – INSTALLATION INSTRUCTIONS

- 1) **PLEASE READ & FOLLOW ALL NOTICES & WARNINGS PRIOR TO INSTALLATION OF THIS PRODUCT
DISENGAGE ALL POWER TO NECESSARY MACHINERY BEFORE PERFORMING ANY WORK ON THE ASSEMBLY
MAKE SURE NO ACCIDENTAL ENGAGEMENT CAN OCCUR**
- 2) INSTALL AND MATE GUARD-FLEX FLYWHEEL WITH ENGINE FLYWHEEL PILOT AND MOUNTING HOLES
COUPLING SHOULD BE INSTALLED WITH 'ENGINE SIDE' TOWARD THE ENGINE
- 3) WITH FLYWHEEL HOLES ALIGNED, INSTALL PROPERLY SIZED BOLTS INTO FLYWHEEL MOUNTING HOLES
GUARDIAN RECOMMENDS USING MEDIUM STRENGTH REMOVABLE LOCTITE
(SEE TABLE 4.1 FOR STANDARD SAE ENGINE FLYWHEEL HOLE SIZES)
- 4) ENSURING COUPLING IS FLAT WITH ENGINE FLYWHEEL, TORQUE BOLTS TO RECOMMENDED SEATING TORQUE
(SEE TABLE 4.1 FOR BOLT SEATING TORQUES)
- 5) MOUNT AND INSTALL PUMP MOUNTING PLATE/HOUSING
REFER TO GUARDIAN'S SUPPLEMENTARY INSTALLATION INSTRUCTIONS FOR FURTHER ASSISTANCE
- 6) INSTALL AND MATE GUARD-FLEX COUPLING HUB ON PUMP SHAFT
COUPLING HUB SHOULD BE INSTALLED WITH COUPLING HUB TEETH AWAY FROM PUMP
- 7) USING CALIPERS, POSITION COUPLING HUB ON PUMP SHAFT TO OBTAIN REQUIRED HUB OFFSET
'HUB OFFSET' IS DISTANCE FROM TOOTH END OF HUB TO MOUNTING FLANGE ON PUMP
(SEE FIGURE 4.1 AND TABLE 4.4 FOR PROPER HUB OFFSET DISTANCE FOR SAE 7-1/2 COUPLINGS)
(SEE FIGURE 4.2 AND TABLE 4.4 FOR PROPER HUB OFFSET DISTANCE FOR SAE 8 COUPLINGS)
(SEE FIGURE 4.3 AND TABLE 4.4 FOR PROPER HUB OFFSET DISTANCE FOR SAE 10 COUPLINGS)
- 8) WITH HUB PROPERLY POSITIONED, TORQUE CLAMPING FASTENER TO RECOMMENDED SEATING TORQUE
GUARDIAN RECOMMENDS USING MEDIUM STRENGTH REMOVABLE LOCTITE FOR BORE & KEYWAY SETSCREW
(SEE TABLE 4.2 FOR PROPER BORE & KEYWAY SETSCREW SEATING TORQUES)
(SEE TABLE 4.3 FOR PROPER CROSSCLAMP BOLT SEATING TORQUES)
- 9) WITH COUPLING HUB PROPER AFIXED TO PUMP SHAFT, PUMP CAN NOW BE INSTALLED AND MATED WITH
PUMP MOUNTING PLATE/HOUSING
BE SURE TO ALIGN GUARD-FLEX COUPLING HUB TEETH WITH MATING GUARD-FLEX FLYWHEEL TEETH

SECTION 4 - REFERENCE DATA

TABLE 4.1 SAE – J620d ENGINE FLYWHEEL HOLE SIZES AND SEATING TORQUES

SAE FLYWHEEL SIZE		7-1/2	8	10
IMPERIAL BOLTS		5/16-18	3/8-16	
SEATING TORQUE	FT-LBS	19	34	
	Nm	26	46	
METRIC BOLTS		M8	M10	
SEATING TORQUE	FT-LBS	20	40	
	Nm	27	54	

TABLE 4.2 GUARD-FLEX COUPLING HUB SETSCREW SEATING TORQUE

COUPLING HUB SIZE		48TSB ET
IMPERIAL BOLTS		3/8-16
SEATING TORQUE	FT-LBS	23
	Nm	31

TABLE 4.3 GUARD-FLEX COUPLING HUB CROSSCLAMP BOLT SEATING TORQUE

COUPLING HUB SIZE		48TSB ET
IMPERIAL BOLTS		5/16-18
SEATING TORQUE	FT-LBS	35
	Nm	47.5

SECTION 4 - REFERENCE DATA (CONTINUED)

TABLE 4.4 GUARD-FLEX COUPLING HUB OFFSET

COUPLING SIZE		SAE 7-1/2		SAE 8	SAE 10
FLYWHEEL OFFSET ¹		1.190		2.440	2.120
SAE HOUSING SIZE		SAE #5	SAE #4	ALL	ALL
HOUSING OFFSET		1.470 ³	1.240 ⁴	NA ⁵	NA ⁵
SAE PUMP - STRAIGHT		HUB OFFSET		HUB OFFSET	HUB OFFSET
SIZE ²	SHAFT LENGTH ²				
5/8"	1.25	2.14	2.14	2.14	2.14
3/4"	1.25	2.14	2.14	2.14	2.14
7/8"	1.62	2.27	2.27	2.43	2.27
1"	1.81	2.27	2.27	2.43	2.27
1-1/4"	2.20	2.39	2.39	2.55	2.39
1-1/2"	2.44	2.39	2.39	2.55	2.39
SAE PUMP - SPLINED		HUB OFFSET		HUB OFFSET	HUB OFFSET
SIZE ²	SHAFT LENGTH ²				
5/8" 9T	1.25	2.14	2.14	2.14	2.14
3/4" 11T	1.50	2.14	2.14	2.14	2.14
7/8" 13T	1.62	2.27	2.27	2.43	2.27
1" 15T	1.81	2.27	2.27	2.43	2.27
1-1/4" 14T	2.20	2.39	2.39	2.55	2.39
1-1/2" 17T	2.44	2.39	2.39	2.55	2.39

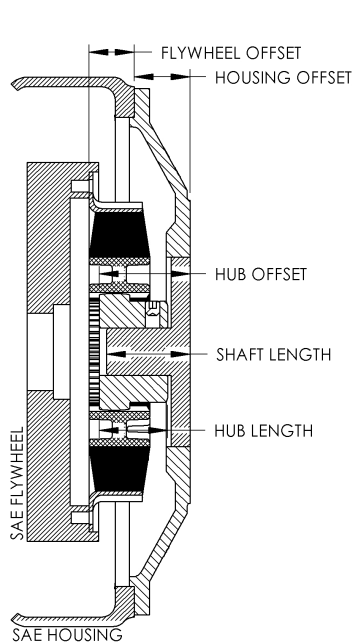


FIGURE 4.1 GUARD-FLEX SAE 7-1/2

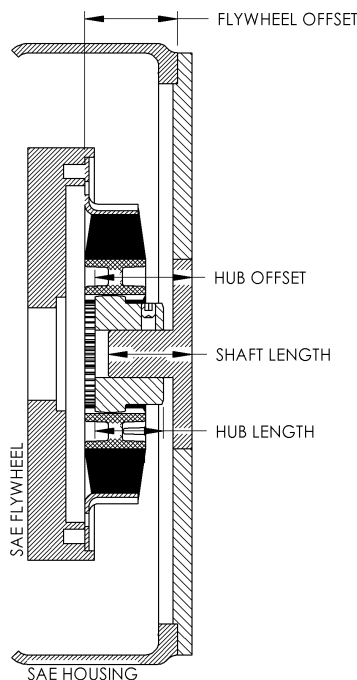


FIGURE 4.2 GUARD-FLEX SAE 8

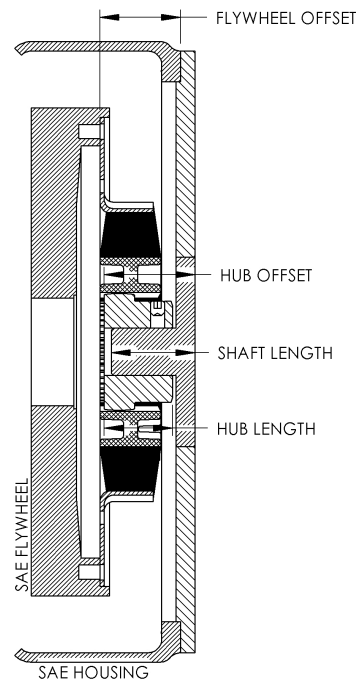


FIGURE 4.3 GUARD-FLEX SAE 10

¹FLYWHEEL OFFSETS PER SAE J620d STANDARD

²SHAFT SIZE AND LENGTH PER SAE J744 STANDARD

³HUB OFFSETS BASED ON THE USE OF GUARDIAN SAE #5 CAST IRON BELL HOUSING

⁴HUB OFFSETS BASED ON THE USE OF GUARDIAN SAE #4 CAST IRON BELL HOUSING

⁵HUB OFFSETS BASED ON THE USE OF GUARDIAN PUMP MOUNTING PLATE; APPLICABLE FOR .50T AND .75T

SECTION 5 - STORAGE

- COUPLINGS SHOULD BE STORED IN A DRY, WELL MAINTAINED ENVIRONMENT
- HUMID STORAGE ENVIRONMENTS COULD LEAD TO SURFACE RUST ON THE HUB AND SPLINE BORE
(INSPECT SPLINE BORE FOR RUST AND BURRS PRIOR TO INSTALLATION)

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