



TITLE:
**SURVEY SOCIETY RATINGS FOR MG-5082A AND
 MGX-5086A**

DRAFTED BY:
TLH

STANDARD NUMBER:
S928AV

CHECKED BY:
DV

WORKFLOW:
ECNWF-50132

APPROVED BY:
ALC

REVISION:
A

SUBJECT:
MARINE TRANSMISSION

DATE:
6/11/2012

PAGE:
1 OF 8

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I. IRS APPROVED RATINGS:

MODEL NO.	ASSEMBLY NO.	REV.	APPROVAL EXPIRATION DATE
MG-5082A	PX11040B	S	5/22/2017
MGX-5086A	PX12290	H	


POWER RATINGS - kW All ratings are for Continuous Duty							
RATIO	1800 rpm	2100 rpm	2300 rpm	2500 rpm	2800 rpm	3000 rpm	3200 rpm
1.06:1	262	292	310	330	357	375	393
1.33:1							
1.53:1							
1.77:1							
2.05:1							
2.53:1							
2.88:1							

POWER RATINGS - kW All ratings are for Medium Duty							
RATIO	1800 rpm	2100 rpm	2300 rpm	2500 rpm	2800 rpm	3000 rpm	3200 rpm
1.06:1	301	336	350	370	405	428	450
1.33:1							
1.53:1							
1.77:1							
2.05:1							
2.53:1							
2.88:1							

POWER RATINGS - kW All ratings are for Intermediate Duty							
RATIO	1800 rpm	2100 rpm	2300 rpm	2500 rpm	2800 rpm	3000 rpm	3200 rpm
1.06:1	314	351	373	396	428	450	475
1.33:1							
1.53:1							
1.77:1							
2.05:1							
2.53:1							
2.88:1							

POWER RATINGS - kW All ratings are for Light Duty							
RATIO	1800 rpm	2100 rpm	2300 rpm	2500 rpm	2800 rpm	3000 rpm	3200 rpm
1.06:1	388	400	418	434	460	474	490
1.33:1							
1.53:1							
1.77:1							
2.05:1							
2.53:1							
2.88:1							

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POWER RATINGS - kW All ratings are for Light Duty							
RATIO	1800 rpm	2100 rpm	2300 rpm	2500 rpm	2800 rpm	3000 rpm	3200 rpm
1.06:1	440	490	530	543	599	629	658
1.33:1							
1.53:1							
1.77:1							
2.05:1							
2.53:1	415	462	492	521	565	593	621
2.88:1	393	428	447	465	492	507	522

- NOTES:
1. REFER TO PAGES 3-8 FOR IRS SERVICE RESTRICTIONS
 2. REFER TO THE TWIN DISC MARINE TRANSMISSION CAPACITY TABLES FOR TWIN DISC APPLICATION LIMITATIONS.
 3. ALL APPLICATIONS REQUIRING SURVEY SOCIETY APPROVED EQUIPMENT MEETING EITHER TYPE APPROVAL OR CERTIFICATE LEVEL STATUS MUST BE APPROVED BY TWIN DISC APPLICATION ENGINEERING.

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Indian Register of Shipping

Place : **Mumbai**
 Date : **23/05/2012**
 Certificate No. : **2012TAC011**

Certificate of Type Approval of Gearing

This is to certify that Reverse Reduction Gearing described below has been examined and tested in accordance with the Rules and approved for installation on board ships classed or intended to be classed with Indian Register of Shipping.

Manufacturer : TWIN DISC INTERNATIONAL S.A.
Place of Manufacturer : CHAUSSEE DE NAMUR, 54,
 B - 1400,NIVELLES,BELGIUM
Model : MG-5082A & MGX-5086A
Approved for : See Annexure for ratings.
Special Conditions of Approval : Lubricating oil to be of viscosity not less
 than 150 mm²/s at 40°C
Validity : This approval is valid till 22nd May 2017
Conditions of Approval : See attached enclosure.

U.S. Kalghatgi
U.S. KALGHATGI
CHIEF SURVEYOR

See Overleaf for Conditions of Issue of This Certificate

MISC - CERT (Rev.1)

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IRCLASS
Indian Register of Shipping

Continuation Sheet

(Enclosure to Certificate No. 2012TAC011 dated 23rd May 2012)

Terms and Conditions

1. The scope of type approval certificate covers approval of plans and type testing of a representative sample in accordance with Pt. 4, Ch. 4, Section 5 of Rules & Regulations of Indian Register of Shipping (IRS) 2011.
2. Every reduction gear for use on vessels classed or intended to be classed with IRS is to be manufactured under the supervision and tested to the satisfaction of the Surveyors in accordance with Pt. 4, Ch. 4, Section 5 of Rules & Regulations of IRS.
3. Any changes to the approved design parameters or construction are to be intimated and approved by IRS.
4. Flexible hoses are to be of short joining lengths and are to be of approved type.

**U.S.KALGHATGI
CHIEF SURVEYOR**

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IRCLASS
Indian Register of Shipping

Continuation Sheet

(Annexure to Certificate No. 2012TAC011 dated 23rd May 2012)

POWER RATINGS -kW								
RATIO	1800 rpm	2100 rpm	2300 rpm	2500 rpm	2800 rpm	3000 rpm	3200 rpm	
1.06,1.33,1.53,1.77, 2.05,2.53,2.88	262	292	310	330	357	375	393	Continuous duty
1.06,1.33,1.53,1.77, 2.05,2.53	301	336	350	370	405	428	450	Medium duty
2.88	273	313	331	352	381	401	421	Medium duty
1.06,1.33,1.53,1.77, 2.05,2.53	314	351	373	396	428	450	475	Intermediate duty
2.88	305	340	361	384	415	436	457	Intermediate duty
1.06,1.33,1.53,1.77, 2.05,2.53	388	432	460	487	528	555	580	Light duty
2.88	367	400	418	434	460	474	490	Light duty
1.06,1.33,1.53,1.77, 2.05	440	490	530	543	599	629	658	Pleasure craft duty
2.88	393	428	447	465	492	507	522	Pleasure craft duty
2.53	415	462	492	521	565	593	621	Pleasure craft duty

U.S.KALGHATGI
CHIEF SURVEYOR

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Indian Register of Shipping DESIGN APPRAISAL DOCUMENT

Date :: 8th June 2011

Ref : TS/7-II(2)G.B./2011102

APPENDIX A

Drawing No.	Rev.	Title	Status	Date*
P-5244x	C	Mass Elastic system	N	
P-11087	C	Input shaft & PINION (48 teeth)	A	
PX-11113	B	Primary Pinion & Bushing Ass'y 1.06:1 ratio	N	
P-11113	B	Pinion primary, 1.06:1 ratio	A	
PM-10292B	-	Bushing	N	
PX-11110	B	Secondary Pinion & Bushing Ass'y, 1.06:1 ratio	N	
P-11110	B	Pinion secondary, 1.06:1 ratio	A	
P-11114	A	Output Gear, 1.06:1 ratio	A	
PX-11091	A	Primary & Secondary Pinion & Bushing Ass'y 1.33:1 ratio	N	
P-11091	B	Pinion primary & Secondary, 1.33:1 ratio	N	
P-11092	-	Output gear, 1.33:1 ratio	A	
PX-11093	A	Primary & Secondary Pinion & Bushing Ass'y 1.53:1 ratio	N	
P-11093	B	Pinion primary & Secondary, 1.53:1 ratio	A	
P-11094	-	Output gear, 1.53:1 ratio	A	
PX-11095	A	Primary & Secondary Pinion & Bushing Ass'y 1.77:1ratio	N	
P-11095	B	Pinion primary & Secondary, 1.77:1 ratio	A	
P-11096	-	Output gear, 1.77:1 ratio	A	
PX-11097	A	Primary & Secondary Pinion & Bushing Ass'y 2.05:1 ratio	N	
P-11097	B	Pinion primary & Secondary, 2.05:1 ratio	A	
P-11098	-	Output gear, 2.05:1 ratio	A	
PX-11102	B	Primary & Secondary Pinion & Bushing Ass'y 2.53:1 ratio	N	
P-11102	B	Pinion primary & Secondary, 2.53:1 ratio	A	
P-11103	-	Output gear, 2.53:1 ratio	A	
PX-11111	B	Primary & Secondary Pinion & Hub Ass'y 2.88:1 ratio	N	
PX-11107	B	Primary & Secondary Pinion & Bushing Ass'y 2.88:1 ratio	N	
P-11107	D	Pinion, 2.88:1 ratio	A	
P-11109	E	Hub, Clutch	N	
P-11108	A	Output gear, 2.88:1 ratio	A	
P-11084	A	Shaft, Output	A	
P-11085A	C	Flange, Output	N	
PX-9153	A	Companion Flange Ass'y	N	
1002738	B	Flange, Companion	N	
P-10755	-	PTO adaptor splined	N	
M-2007-T	F	Hex Head Cap Screws	N	
M-2026-T	B	Hex LockNuts	N	

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Ref. : TS/7-II(2)G.B./2011102

PM-8974	-	Tapered Roller Brg. Input Shaft engine side	N
PM-11088	A	Tapered Roller Brg. Input Shaft propeller side	N
PM-11086	-	Tapered Roller Brg. Primary & Secondary Shafts engine side	N
M2619A	B	Tapered Roller Brg. Primary Shaft, propeller side	N
PM-8475	-	Tapered Roller Brg. Secondary Shaft, propeller side	N
PM-8973	-	Tapered Roller Brg. Output Shaft engine side	N
PM-8972	-	Tapered Roller Brg. Output Shaft propeller side	N

DRAWINGS FOR MG-5082A

Drawing No.	Rev.	Title	Status	Date*
PX-11040B, Sheet 1	S	Cross section with parts numbers	N	
PX-11040B, Sheet 2		Installation drawing, Manual selector valve	N	
PX-11040B, Sheet 3		Cross section, electric selector valve	N	
PX-11040B, Sheet 4		Installation drawing, electric selector valve	N	
PX-11040B, Sheet 5		Four views drawing	N	
PX-11040B, Sheet 6		Optional input couplings configuration	N	
PX-11040B, Sheet 7		Installation Dwg with filter "Donation"	N	
PX-11040B, Sheet 8		Installation Dwg with filter & heat exchanger	N	
PX-11040B, Sheet 9				A
P-10697	-	Hydraulic diagram	A	
PX-11082A	-	Primary Shaft assembly	N	
P-11082	A	Shaft, primary	A	
P-11079A	C	Diving transfer Gear (51 teeth)	N	
P-11083A	-	Secondary Shaft assembly	N	
P-11083	-	Shaft, secondary	A	
P-11080A	B	Driven transfer Gear (51 teeth)	A	

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DESIGN APPRAISAL DOCUMENT

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Ref. : TS/7-II(2)G.B./2011102

X DRAWINGS FOR MG-5086A

Drawing No.	Rev.	Title	Status	Date*
PX-12290, Sheet 1	H	Cross section with parts numbers	N	
PX-12290, Sheet 2		Installation drawing	N	
PX-12290, Sheet 3		Installation drawing with heat exchanger	N	
PX-12290, Sheet 4		Flexible couplings configuration	N	
PX-12290, Sheet 5		Four views drawing	N	
PX-12290, Sheet 6		Input Soft Elastic Couplings configuration	N	
P-12182	-	Hydraulic diagram	A	
PX-12286	A	Primary Shaft assembly	N	
P-12286	A	Shaft, primary	A	
P-12287	D	Driving transfer Gear	A	
PX-12288	B	Secondary Shaft assembly	N	
P-12288	B	Shaft, secondary	A	
P-12289	E	Driven transfer Gear	A	
-	-	Plan showing satisfactory lubrication under list & Trim	N	
-	-	Marine Transmission Alarm settings	N	

* As stamped on the document

A= Approved provided the installation is to IRS Surveyor's satisfaction and the remaining requirements of the Rules are complied with.

N= Noted as supporting documentation for information only

V.S. Shetake
V.S. SHETAKE
ENGINEER SURVEYOR

U.S. Kalghatgi
U. S. KALGHATGI
VICE PRESIDENT

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