

S686-600C-07

2600 to 6000 Watt Alternator

Featuring:

- 3 Phase brushless design
 - Designed to be belt driven or coupling driven
 - Self supporting shaft and dual sealed ball bearings
 - NdFeB magnets
 - Humidity and moisture-resistant
-

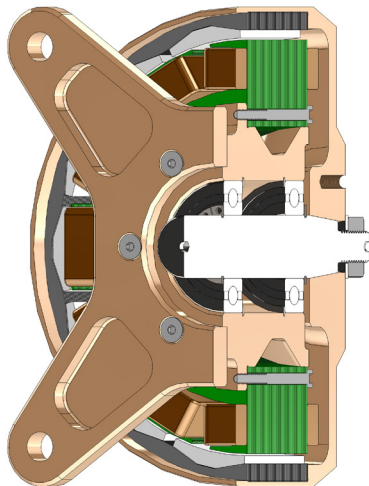
Sullivan
UNMANNED VEHICLE

S686-600C-07

2600 to 6000 Watt Alternator



Specifications



Model number:	S686-600C-07
Alternator diameter:	152mm
Alternator thickness:	78mm
Alternator weight:	5.0 kg
Engines:	Most engines
Rated power at 2500 RPM:	2600W
Rated power at 5000 RPM:	4500W
Standard wind type:	Three phase
No-load voltage constant:	8.0 VAC/1000 RPM (rms voltage, line to line)
Thermal: (Rotor)	Continuous Operation* 85°C Absolute Maximum* 120°C *Higher temperature available but maximum power will be reduced
Thermal: (Stator)	Continuous Operation 120°C Absolute Maximum 200°C
Options:	Special winding Modified shell machining

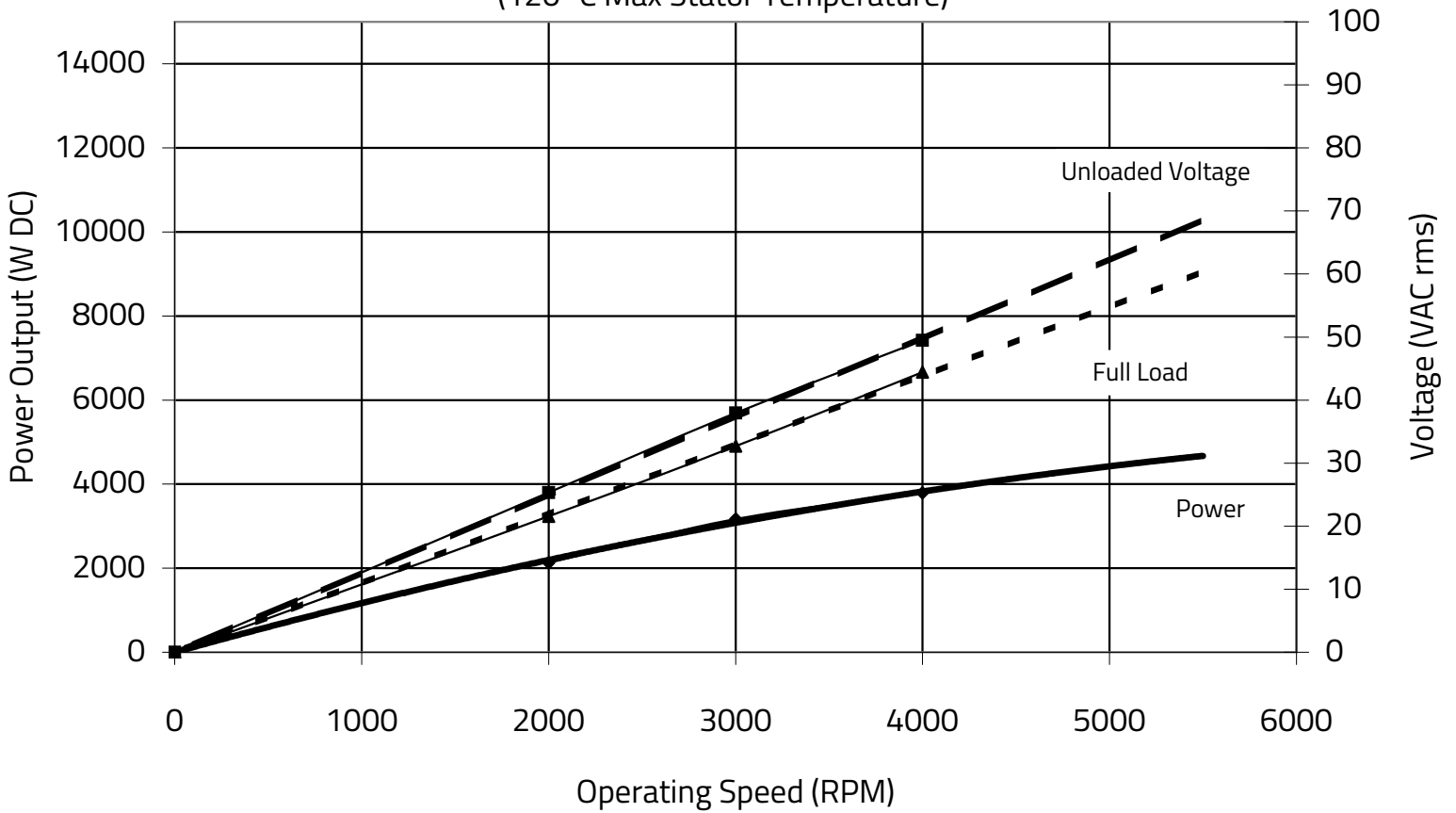
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Performance

S686-600C-07
Rated Power vs RPM
(120°C Max Stator Temperature)



Sullivan UV

8950 Yellow Brick Rd

Baltimore, MD 21237

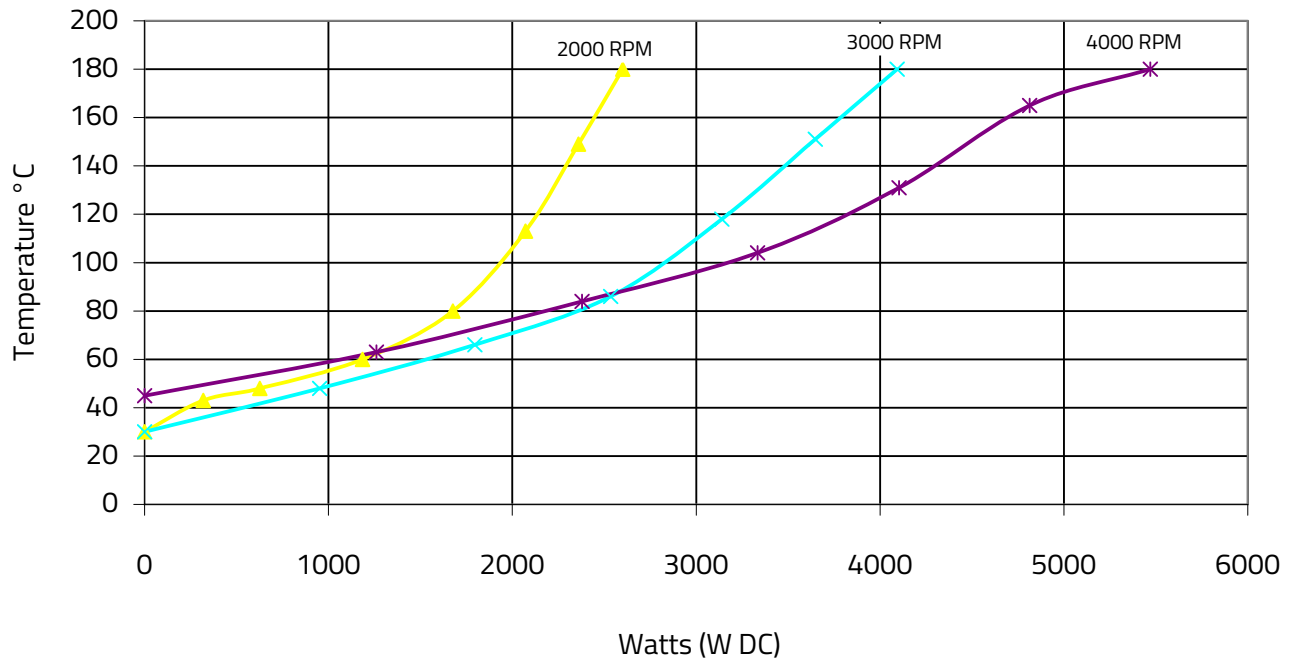
Phone: 410-732-3500 Fax: 410-327-7443

W: www.SullivanUV.com E: sales@sullivanuv.com

Sullivan UV is a Baltimore, Maryland-based manufacturer of custom crafted starters, alternators and control hardware.

Efficiency

Stator Temperature Rise vs Power
S686-600C-07



Engine load calculations

$$\text{Engine load} = \text{Output power} / \text{Regulator Efficiency} / \text{Alternator Efficiency}$$

Example: A 225W electrical load at 90% regulator efficiency and 80% alternator efficiency requires $225 / 0.90 / 0.80 = 312.5\text{W}$ of engine power. At 746W/HP, this is 0.419 HP.

$$\text{Ft-Lbs of Torque} = \text{Horsepower} * 5252 / \text{RPM}$$

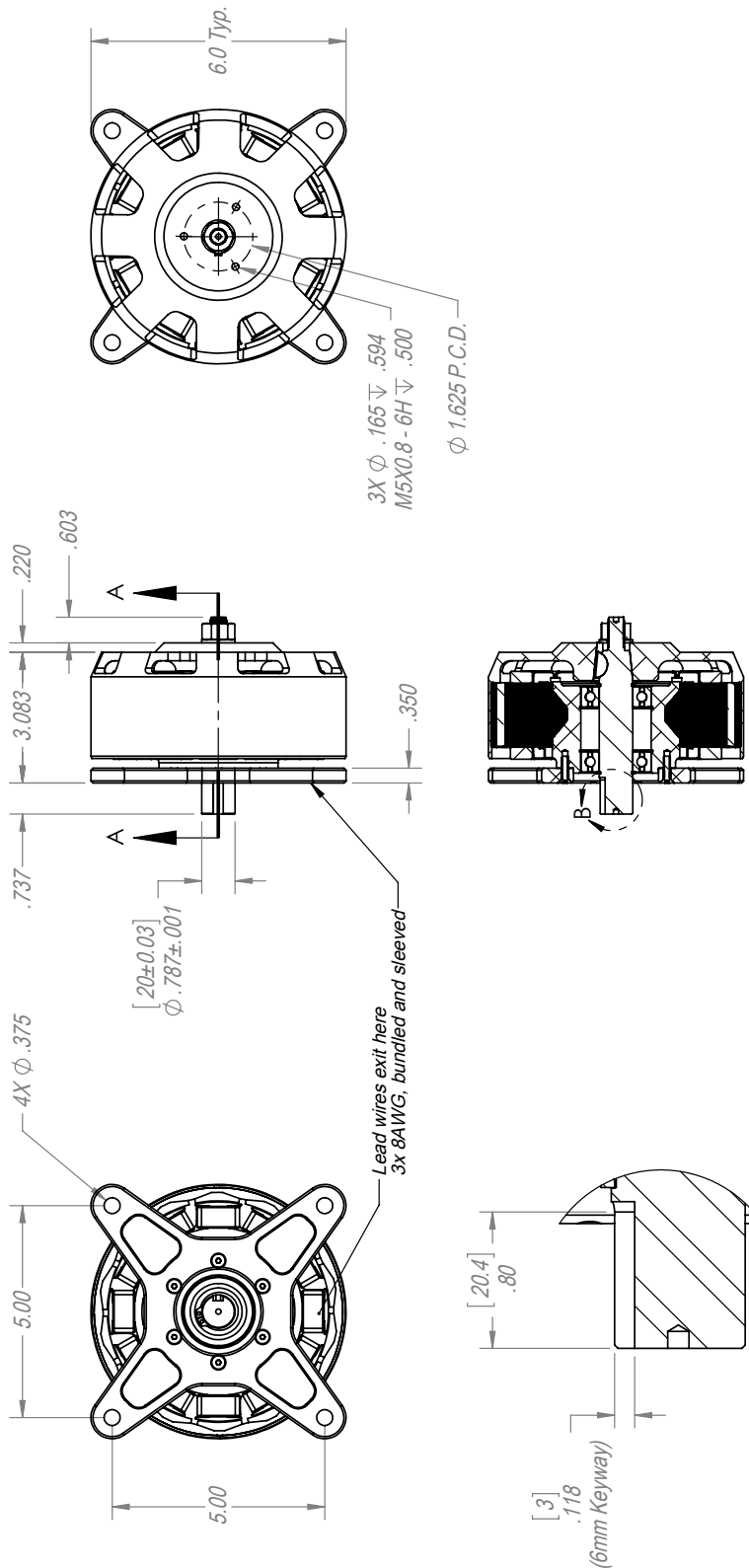
At 3800 RPM, a 225W load with a 90% efficient regulator and 80% efficient alternator, the torque load would be $0.419\text{HP} * 5252 / 3800 = 0.579 \text{ Ft-Lbs}$.

$$1 \text{ Ft-Lb} = 1.356 \text{ N-M}$$

0.579 Ft-Lbs of torque is 0.785 N-M.

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SECTION A-A

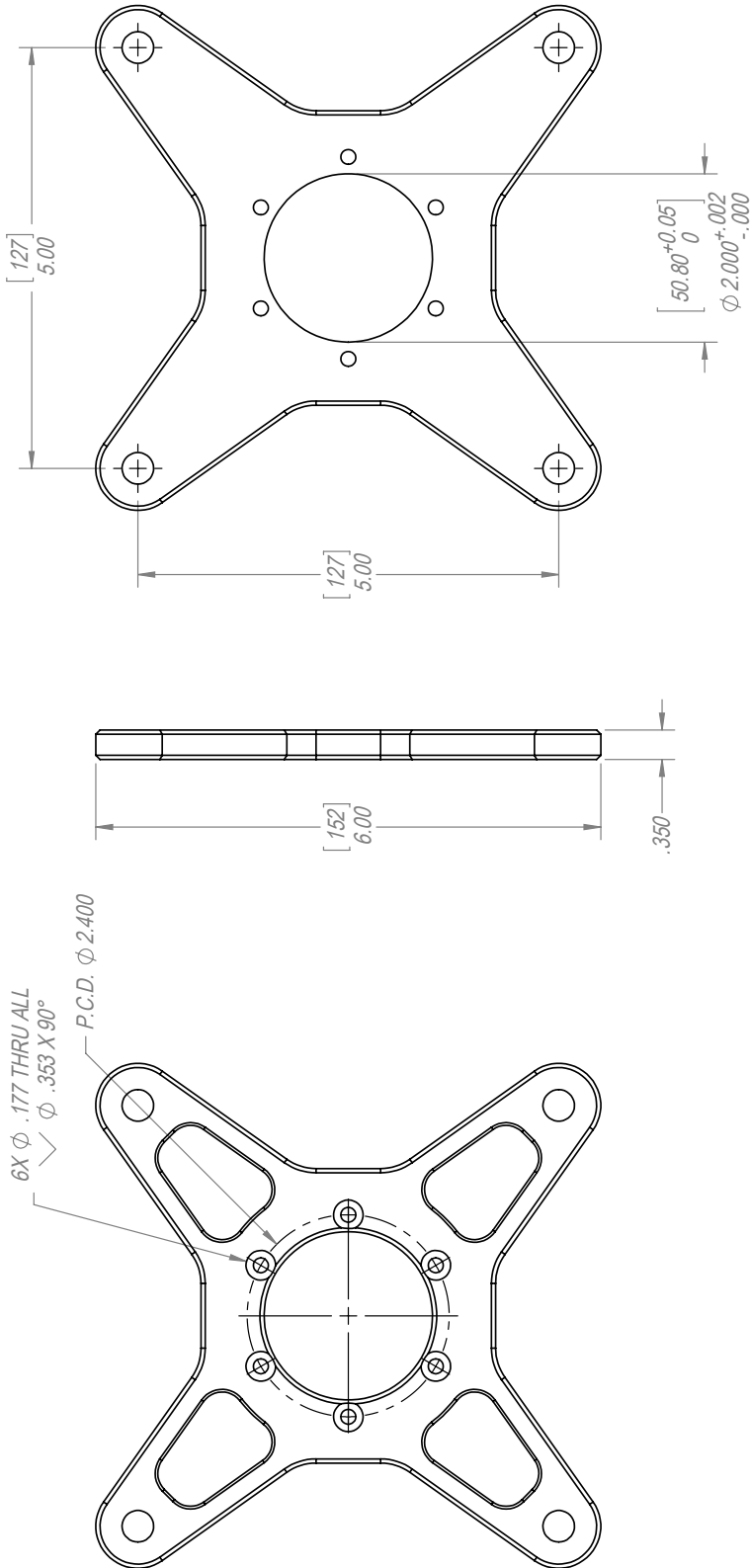
DETAIL B - Keyway SCALE 1 : 1

UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Sullivan UV	
DIMENSIONS ARE IN INCHES		KP	10/20/2014	TITLE:	
TOLERANCES:				S686-600C-07	
FRACTIONAL: 1/64				Assembly V2 ICD	
ANGULAR: MACH ± BEND ±				SIZE	DWG. NO.
TWO PLACE DECIMAL ± .010				A	N/C
THREE PLACE DECIMAL ± .005				SCALE: 1:4	WEIGHT:
INTERPRET GEOMETRIC TOLERANCING PER:				SHEET 1 OF 1	
MATERIAL		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF THE PERFECT PARTS COMPANY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF THE PERFECT PARTS COMPANY IS PROHIBITED.			
FINISH					
DO NOT SCALE DRAWING					

1 2 3 4 5

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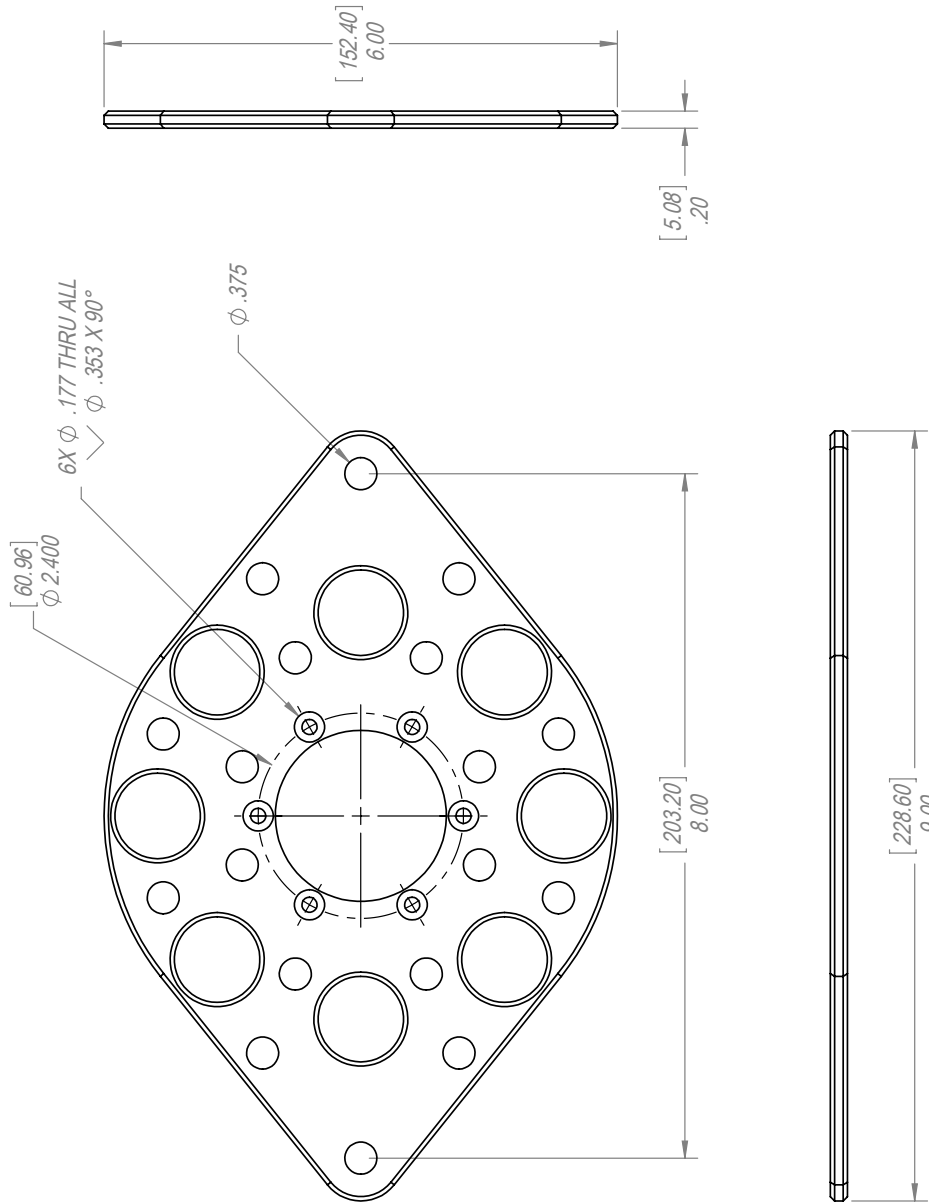
Notes:
- Break all sharp edges

UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Sullivan UV	
DIMENSIONS ARE IN INCHES		KP	10/20/2014	TITLE:	
TOLERANCES:		DRAWN		S686-600C-07 Mounting Plate - Type X1	
FRACTIONAL: 1/64		CHECKED		SIZE	DWG. NO.
ANGULAR: MACH+ BEND ±		ENG APPR.		A	20141020KP-01
TWO PLACE DECIMAL ± .010		MFG APPR.		SCALE: 1:2	WEIGHT: 220 g
THREE PLACE DECIMAL ± .005		G.A.		REV	N/C
INTERPRET GEOMETRIC TOLERANCING PER:		PROPRIETARY AND CONFIDENTIAL			
MATERIAL		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF THE PERFECT PARTS COMPANY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF THE PERFECT PARTS COMPANY IS PROHIBITED.			
FINISH		Anodize - clear (no tint)			
DO NOT SCALE DRAWING		SHEET 1 OF 1			

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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: ± 1/64 ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± .010 THREE PLACE DECIMAL ± .005		DRAWN	NAME	DATE	Sullivan UV
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL A6061-T651 FINISH Anodize - clear (no tint)	CHECKED	KP	10/21/2014	TITLE: S686-600C-07 Mounting Plate - Type R1	
DO NOT SCALE DRAWING	ENG APPR.				SIZE A
	MFG APPR.				DWG. NO. 20141021KP-01
	Q.A.				REV N/C
<p>PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF THE PERFECT PARTS COMPANY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF THE PERFECT PARTS COMPANY IS PROHIBITED.</p>				SCALE: 1:2	WEIGHT: 203 g
					SHEET 1 OF 1

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