



Manufacturing Plan

1/24/2022

Andrew Harper-Smith	90%
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Custom Parts:

The Custom Parts that are project needs, will be constructed using standard steel materials and constructed using a MIG welder. The custom parts required are the parts that make up the drivetrain, and the various mounts for the motors and solar panels, and the cart itself will need to be modified in the machine shop, to fit our needs.

Table 1.1

Part ID	Part Name	Connections	Manufacturing Process	Material Stock	Purchasing Source
STF005	Motor Mount	STE001, STF009	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF006	Triangle Support Member	STF009, STF008	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF00	Triangle Support Member	STF009, STF008	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF011	Triangle Support Member	STF009, STF010	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF012	Triangle Support Member	STF009, STF010	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF009	Main Member	STF008, STF007, STF006, STF012, STF011, STF010, STF005, STF004, STF003	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF008	Side Member	STF009, STF006, STF011	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF0010	Side Member	STF009, STF007, STF012	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF014	Cross Member	STF008, STF010, STF019,	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot

		STF018, STF017, STF016			
STF013	A-Arm Support	STF017, STF001	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF015	A-Arm Support	STF017, STF002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF023	A-Arm Support	STF018, STF002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF020	A-Arm Support	STF018, STF001	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF019	Upper Hub Mount	STF014, STF018, STE013	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF016	Upper Hub Mount	STF014, STF017, STE014	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF017	Hub Member	STF014, STF013, STF016, STF020, STF021	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF018	Hub Member	STF014, STF015, STF019, STF023, STF022	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF021	Lower Hub Mount	STF017, STE014	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF022	Lower Hub Mount	STF018, STE013	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STE003	Pivot Member 1	STE002, STE004	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STE002	Pivot Rod	STE001, STE003	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot

STE004	Pivot Member 2	STE003, STE005, STE006	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
ST002	Cart Basket	ST001, STF004, STF003, STR003, STR004, STF001, STF002, STR001, STR002, DR001	In house machine shop, MIG welding	Hot Rolled Plain Steel	Harbor Freight
STF001	A-Arm	STF013, STF020, ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STF002	A-Arm	STF015, STF023, ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR001	A-Arm	STR016, STR020, ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR002	A-Arm	STR019, STR021, ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR008	Rear Main Member	STR003, STR004, STR007, STR009, STR010, STR011, STR014, STR015, STR012, STR013	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR007	Triangle Support Member	STR010, STR008	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR009	Triangle Support Member	STR011, STR008	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot

STR014	Triangle Support Member	STR010, STR008	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR015	Triangle Support Member	STR011, STR008	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR010	Rear Side Member	STR008, STR007, STR014, STR012, STR016, STR020, STR017	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR011	Rear Side Member	STR009, STR008, STR015, STR013, STR019, STR021, STR018	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR012	Rear diagonal Member	STR008, STR010	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR013	Rear diagonal Member	STR008, STR011	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR016	Rear A-Arm Support	STR010, STR001	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR020	Rear A-Arm Support	STR010, STR001	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR019	Rear A-Arm Support	STR010, STR002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR021	Rear A-Arm Support	STR010, STR002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STR017	Bearing Mount	STR010, DR004	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot

STR018	Bearing Mount	STR011, DR004	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STD01	Drive Motor Mount	ST002, DR001	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STS001	Left Front Solar Mount	ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STS002	Right Front Solar Mount	ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STS003	Left Rear Solar Mount	ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STS004	Right Rear Solar Mount	ST002	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
ST003	Cart left A-Arm Mount	ST002, STF001, STR001	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
ST004	Cart Right A- Arm Mount	ST002, STF002, STR002	In house machine shop, MIG welding	Hot Rolled Plain Steel	
STE013	Steering Hub Vertical	STF019, STF023, STE011, STE015	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STE014	Steering Hub Vertical	STF016, STF021, STE012, STE016	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STE011	Steering Hub Horizontal 1	STE009, STE013	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STE012	Steering Hub Horizontal 1	STE010, STE014	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
STE015	Steering Hub Horizontal 2	STE013, STE017	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot

STE016	Steering Hub Horizontal 2	STE016, STE018	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
DR004	Rear Axle	DR003, STR017, STR018, DR005, DR006	In house machine shop, MIG welding	Hot Rolled Plain Steel	Home Depot
ASEM001	Front Jig	STF005, STF006, STF007, STF008, STF009, STF010, STF011, STF012, STF013, STF014, STF015, STF016, STF017, STF018, STF019, STF020, STF021, STF022, STF023	In house machine shop, MIG welding	Hot Rolled Plain Steel	
ASEM002	Steering Pivot Arm	STE002, STE003, STE004	In house machine shop, MIG welding	Hot Rolled Plain Steel	
ASEM003	Left Front Hub	STE011, STE013, STE015	In house machine shop, MIG welding	Hot Rolled Plain Steel	
ASEM004	Right Front Hub	STE012, STE014, STE016	In house machine shop, MIG welding	Hot Rolled Plain Steel	
ASEM005	Rear Jig	STR007, STE008, STE009, STE010, STE011, STE012, STE012,	In house machine shop, MIG welding	Hot Rolled Plain Steel	

		STE013, STE014, STE015, STE016, STE017, STE018, STE019, STE20, STE21			
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