

Replacement Parts Guide

For TraFix MASH Scorpion II® TMA

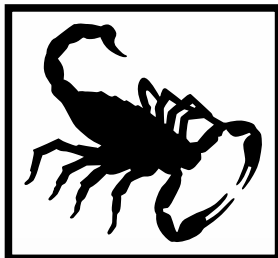
**TraFix
Devices Inc.**
Engineered Products for Safer Highways



MASH ✓[®]

Manual for Assessing Safety Hardware

TESTED, PASSED AND ELIGIBLE



**Scorpion II[®]
TMA**

*Truck Mounted
Attenuator*

Replacement Parts Guide

For TraFFix MASH Scorpion II® TMA

Please begin by reading
Overview and Orientation Information
on pages 4 and 5.

Table of Contents

Overview and Orientation	04
Section 1: MASH Scorpion II® TMA Parts	
Tubes	06
Energy-Absorbing Modules.....	08
Diaphragms and Bottom Angle.....	10
Cylinders (and assoc. hardware)	12
Lockout Arm	16
Hydraulic Hose Kit.....	17
Section 2: Shared Parts	
(Compatible with the MASH Scorpion II & NCHRP-350 Scorpion TMAs.)	
Energy-Absorbing Module A	20
Backup Frame	20
Visibility Lights	21
Tail Lights and Junction.....	22
Jacks	24
Misc. Components.....	26
Motor and Electronics.....	28
Appendix A: Drawings & Hardware	
Cables and Wiring	32
Tail Light Hardware Breakdown.....	34
MASH Lockout Arm Hardware Breakdown.....	38

Overview & Orientation

Symbols and Meanings



- All MASH Scorpion II® TMA compatible parts are shown with this logo.
- Only parts with this MASH logo should be used with the MASH Scorpion II TMA.



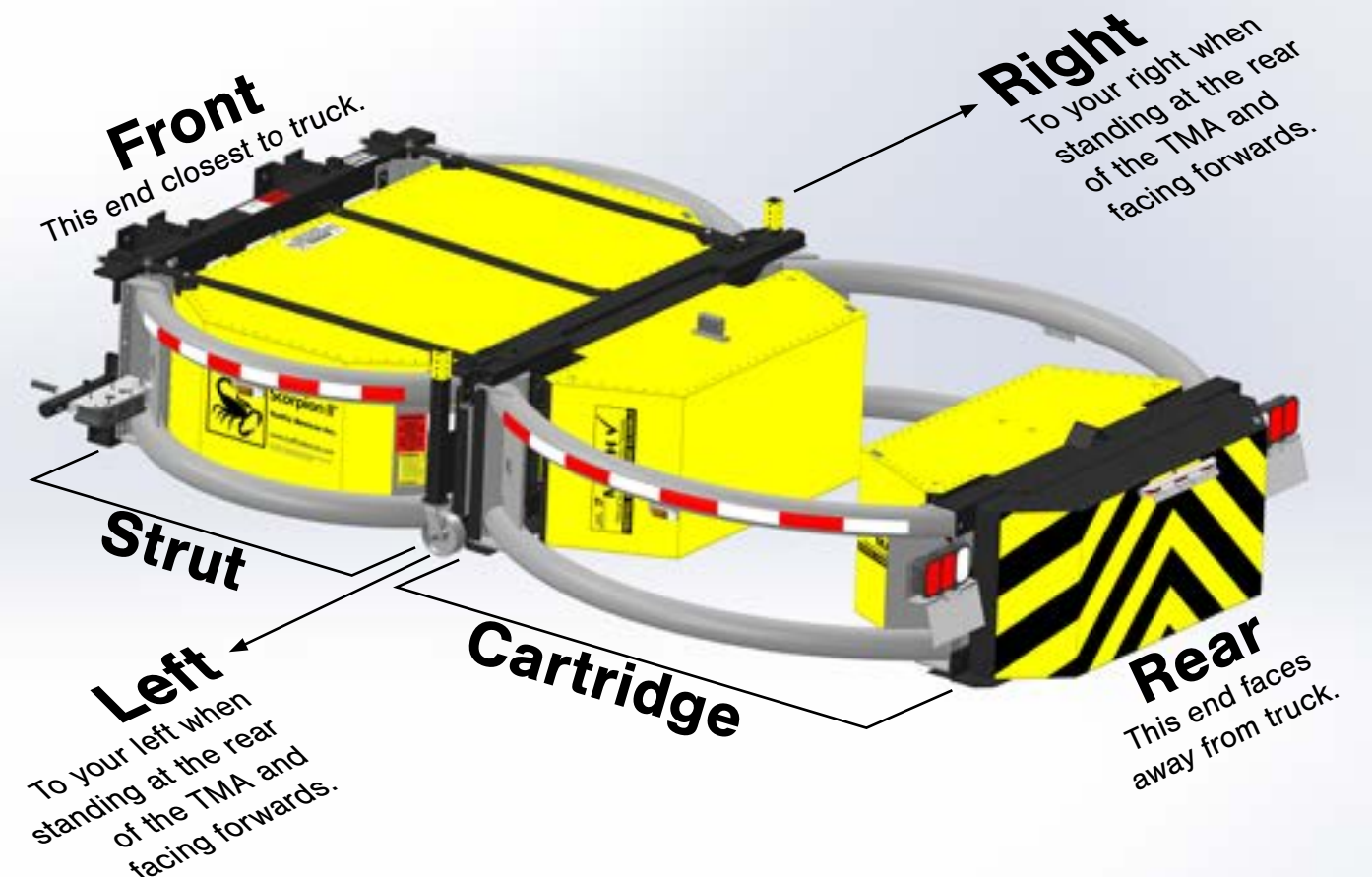
- All NCHRP-350 Scorpion® compatible parts are shown with this logo.
- Only parts with this NCHRP-350 logo should be used with the NCHRP-350 Scorpion TMA.

- Shared MASH and NCHRP-350 compatible parts are shown with both logos.
- These may be used with both the MASH Scorpion II & NCHRP-350 Scorpion TMAs.



Overview & Orientation

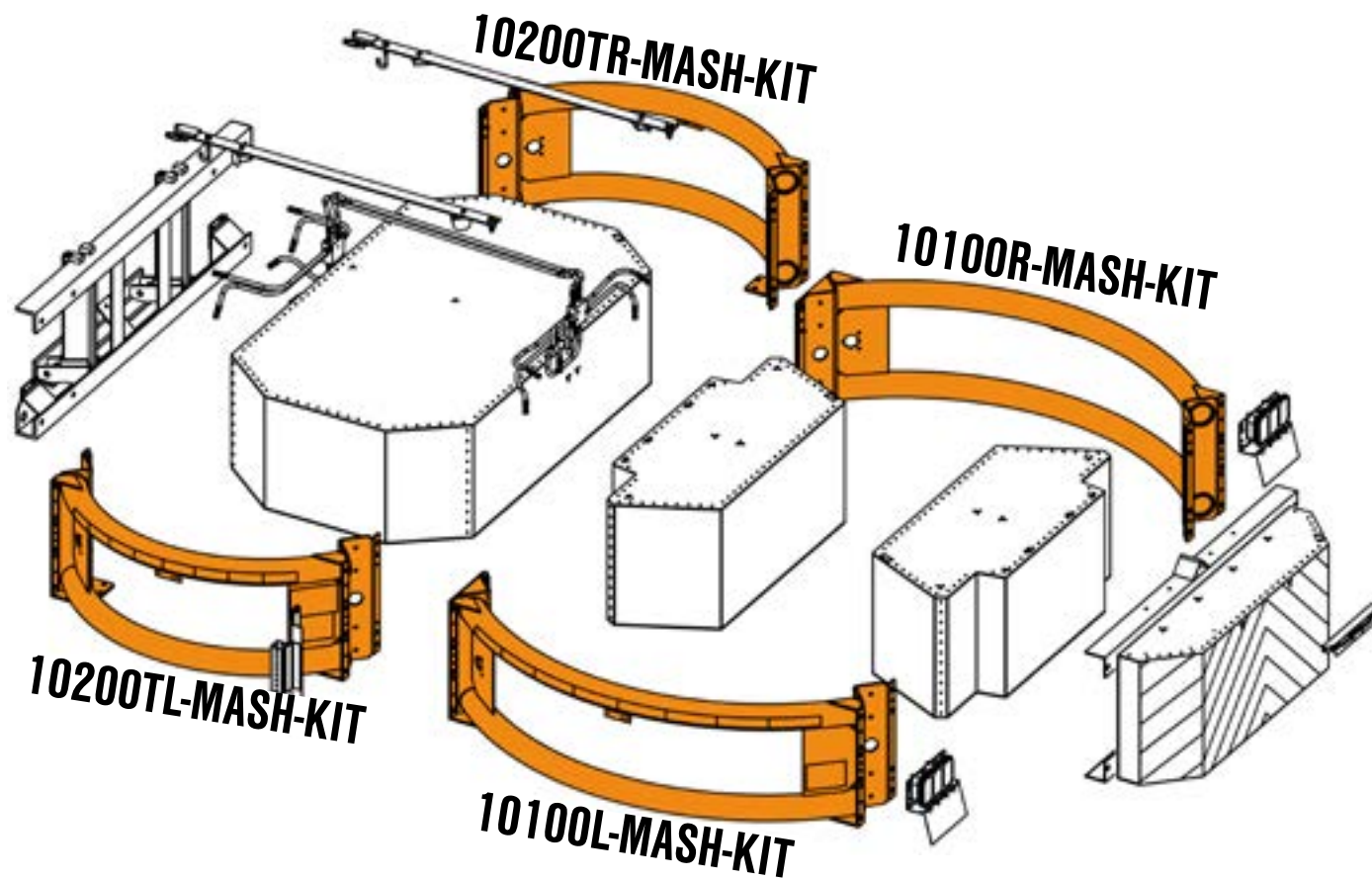
TraFFix MASH Scorpion II® Truck Mounted Attenuator



Replacement Tubes

For TrafFix MASH Scorpion II® TMA Only

Tube Placement in MASH Scorpion II



Components Removed for Clarity.

Replacement Tubes

For TrafFix MASH Scorpion II® TMA Only

10200TL-MASH-KIT

MASH Strut Tube, Front Left



10200TR-MASH-KIT

MASH Strut Tube, Front Right



10100L-MASH-KIT

MASH Cartridge Tube, Rear Left



10100R-MASH-KIT

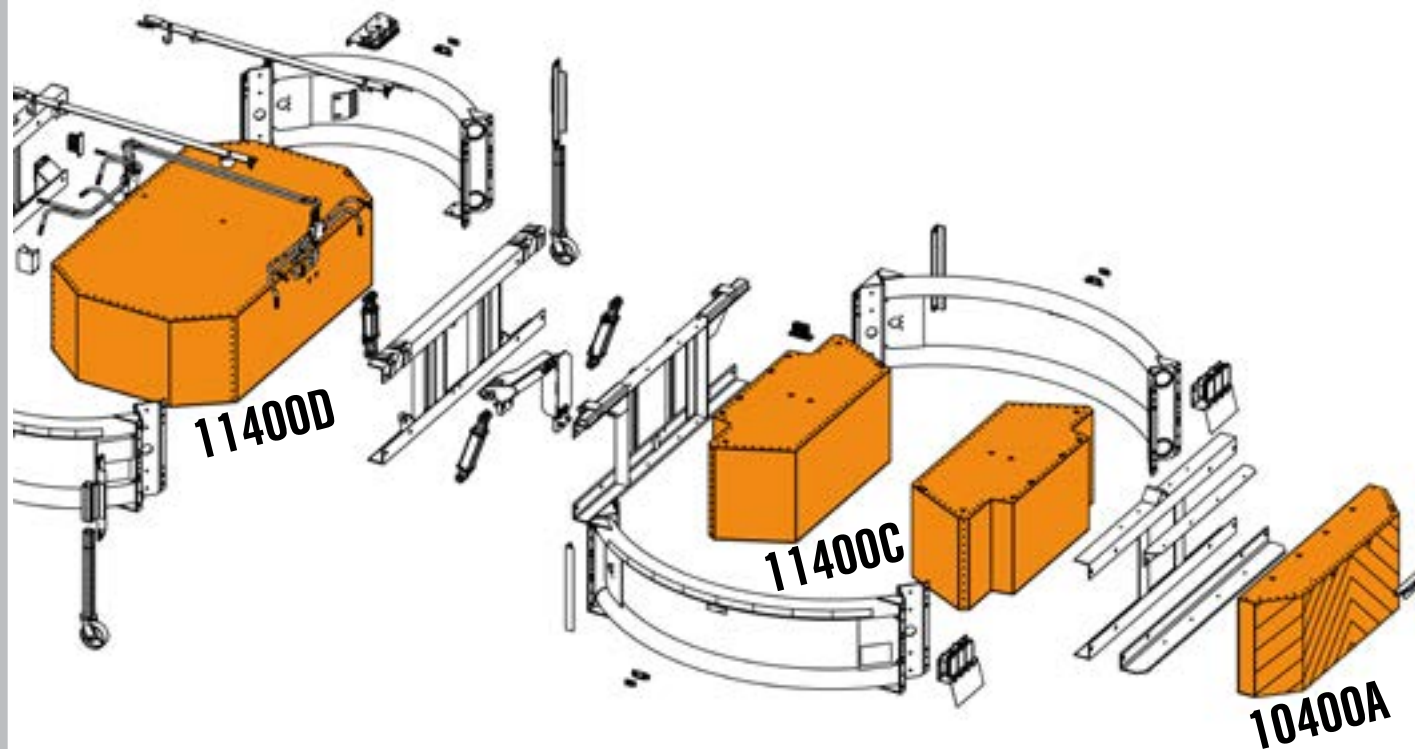
MASH Cartridge Tube, Rear Right



Energy-Absorbing Modules

For TraFix MASH Scorpion II® TMA

Module Placement in MASH Scorpion II TMA



Components Removed for Clarity.

Energy-Absorbing Modules

For TraFix MASH Scorpion II® TMA



11400D

Module D

*Energy-Absorbing Module
Includes Scorpion Logo
MASH Scorpion II Only*



11400C

Module C

*Energy absorbing Module
MASH Scorpion II Only*



10400A

Module A*

*Energy absorbing Module
4" Yellow Sheeting
MASH and NCHRP-350*

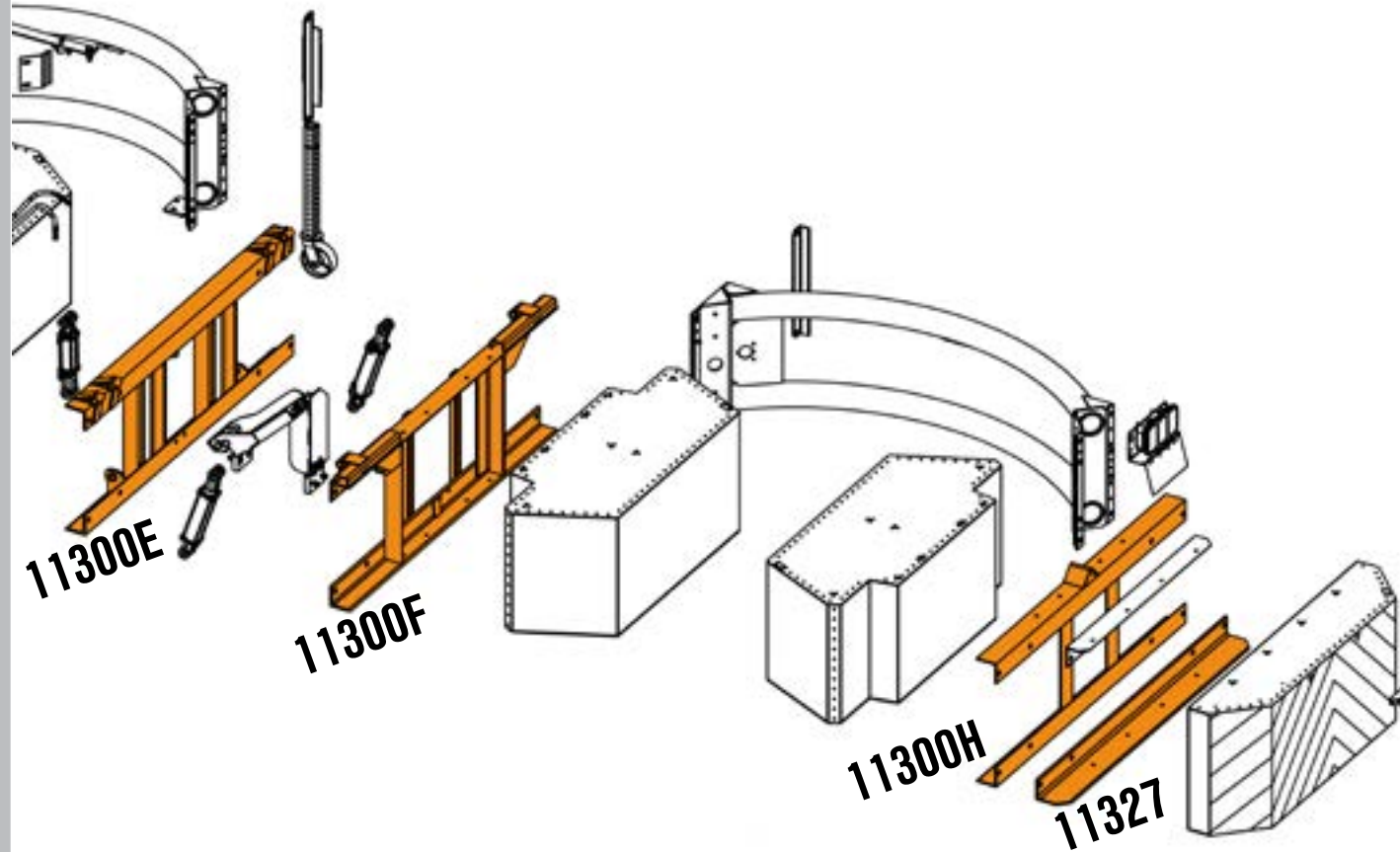


** Module A, specifically, can be used in both MASH and NCHRP-350 Scorpion TMAs*

Diaphragms and Bottom Angle

For TraFFix MASH Scorpion II® TMA Only

Placement in MASH Scorpion II TMA



Components Removed for Clarity.



11300E

Diaphragm
Strut Rear

MASH Scorpion II TMA Only



11300F

Diaphragm
Cartridge Front

MASH Scorpion II TMA Only



11300H

Diaphragm
Cartridge Rear

MASH Scorpion II TMA Only



11327

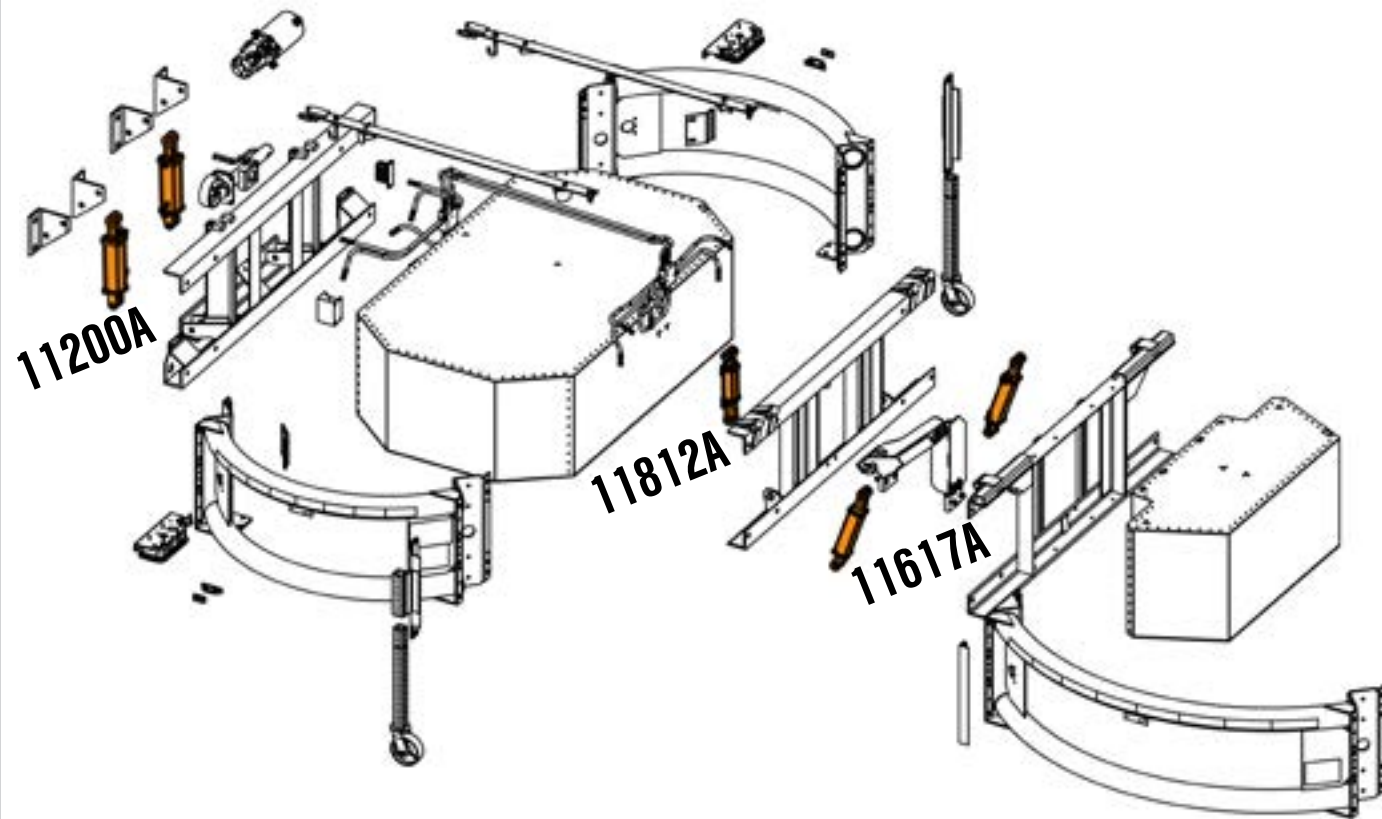
Bottom Angle
Cartridge Rear

MASH Scorpion II TMA Only

Replacement Cylinders

For TrafFix MASH Scorpion II® TMA Only

Cylinder Placement in MASH Scorpion II TMA



Components Removed for Clarity.

11200A

Strut Cylinder - 3"

For MASH Scorpion II TMA Only



Hardware for 11200A

Not Included

Must be ordered separately



12012
Locknut

12011
Bolt, 5-1/2"

12017
Hairpin



10661
Velocity Fuse

10662
90° Fitting



12015-6.0
Clevis Pin, 6"

11617A

Strut to Cartridge Cylinder - 2.5"
For MASH Scorpion II TMA Only



10663
90° Fitting

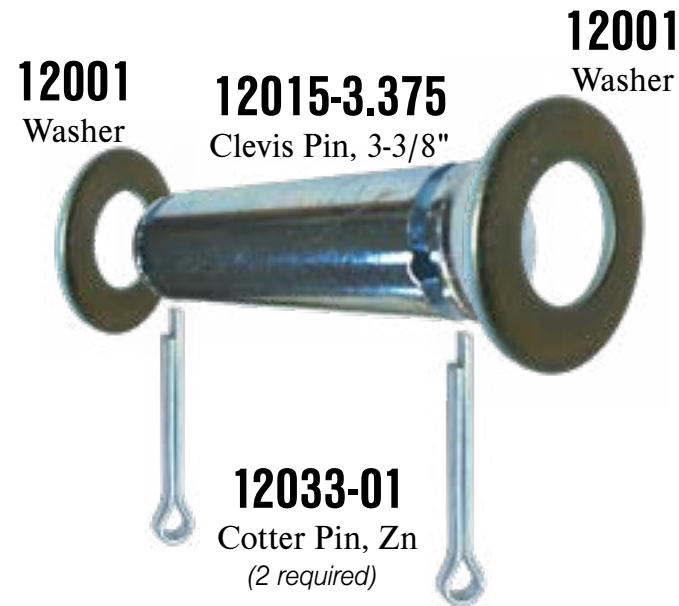
10661
Velocity Fuse

10662
90° Fitting



Hardware for 11617A

Not Included
Must be ordered separately



12001
Washer

12015-3.375
Clevis Pin, 3-3/8"

12001
Washer

12033-01
Cotter Pin, Zn
(2 required)



12033-01
Cotter Pin, Zn

12017
Hairpin

12001
Washer

12015-3.375
Clevis Pin, 3-3/8"

11812A

Lockout Arm Cylinder - 2"
For MASH Scorpion II TMA Only



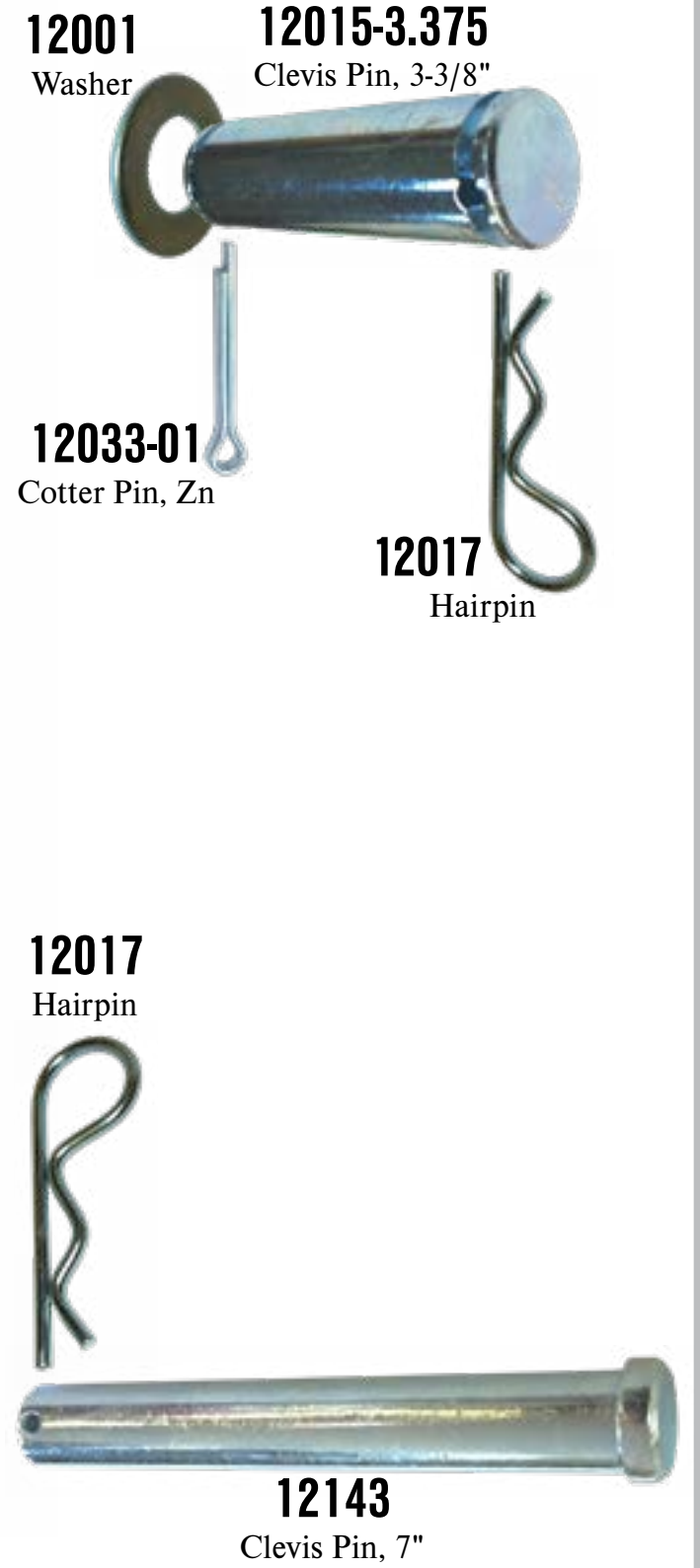
10663
90° Fitting

10663
90° Fitting



Hardware for 11812A

Not Included
Must be ordered separately



12001
Washer

12015-3.375
Clevis Pin, 3-3/8"

12033-01
Cotter Pin, Zn

12017
Hairpin

12017
Hairpin

12143
Clevis Pin, 7"

Lockout Arm

For TraFFix MASH Scorpion II® TMA Only

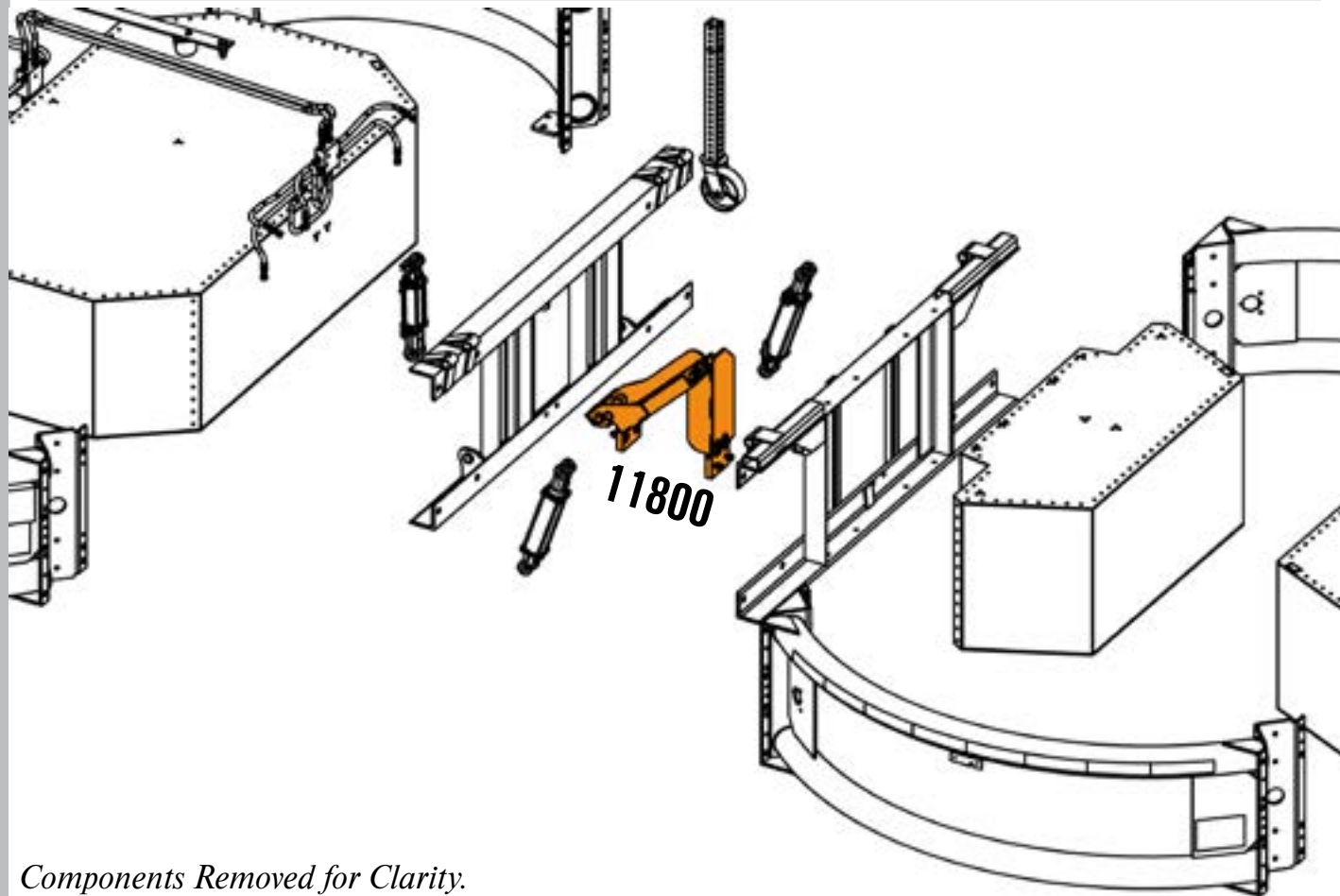
11800

Lockout Arm Assembly



For Lockout Arm Hardware, see page 38.

Lockout Arm Placement in MASH Scorpion II.

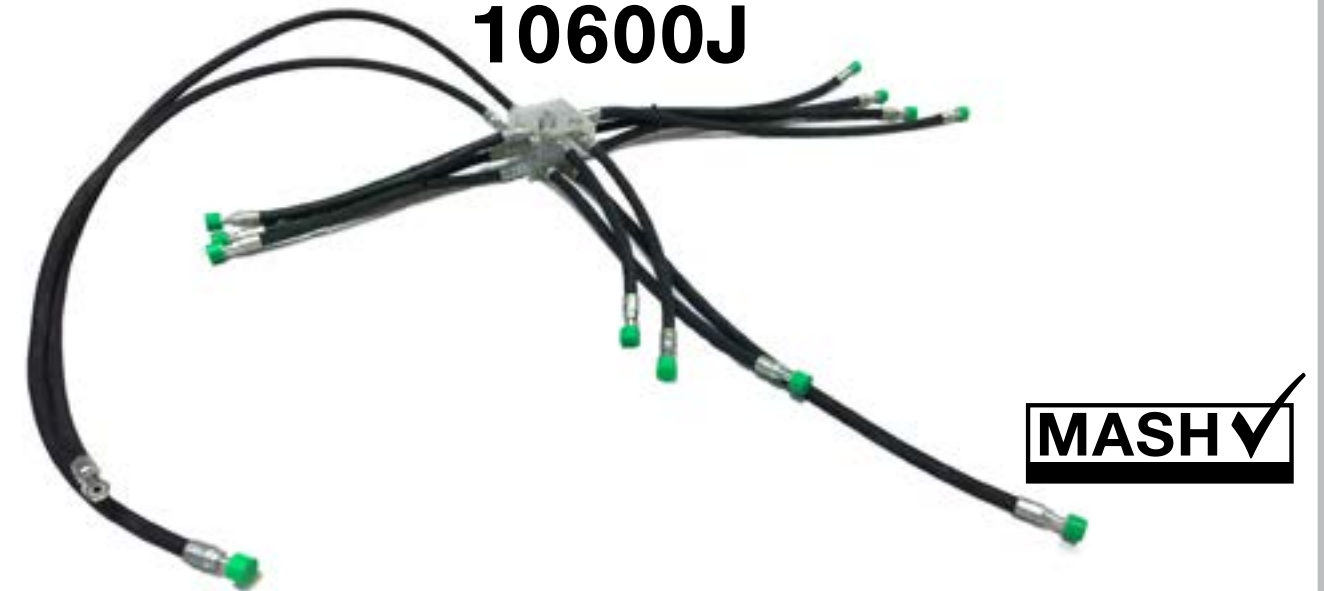


Components Removed for Clarity.

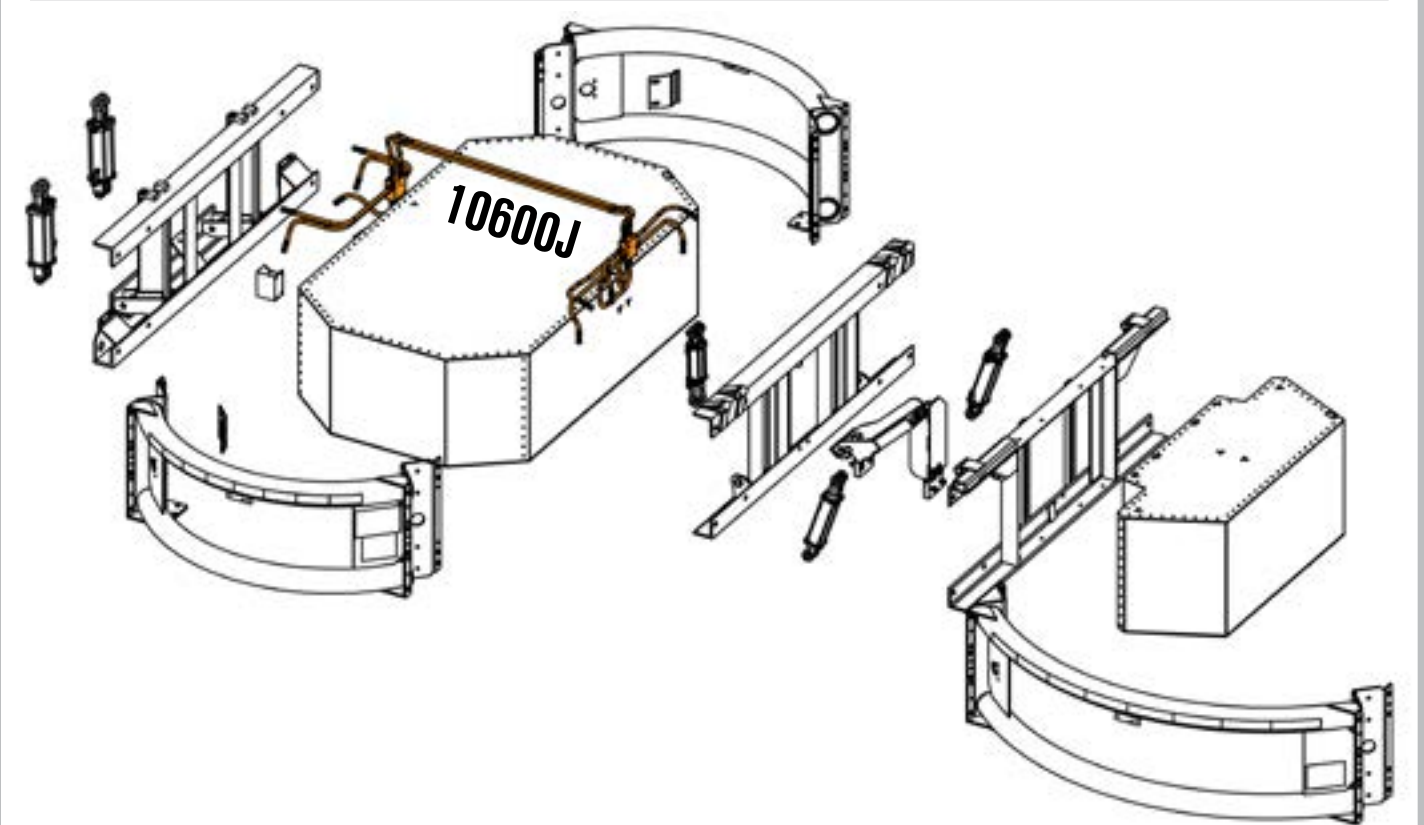
Hydraulic Hose Kit

For MASH Scorpion II® TMA Only

10600J



Hydraulic Hose Kit Placement in MASH Scorpion II.

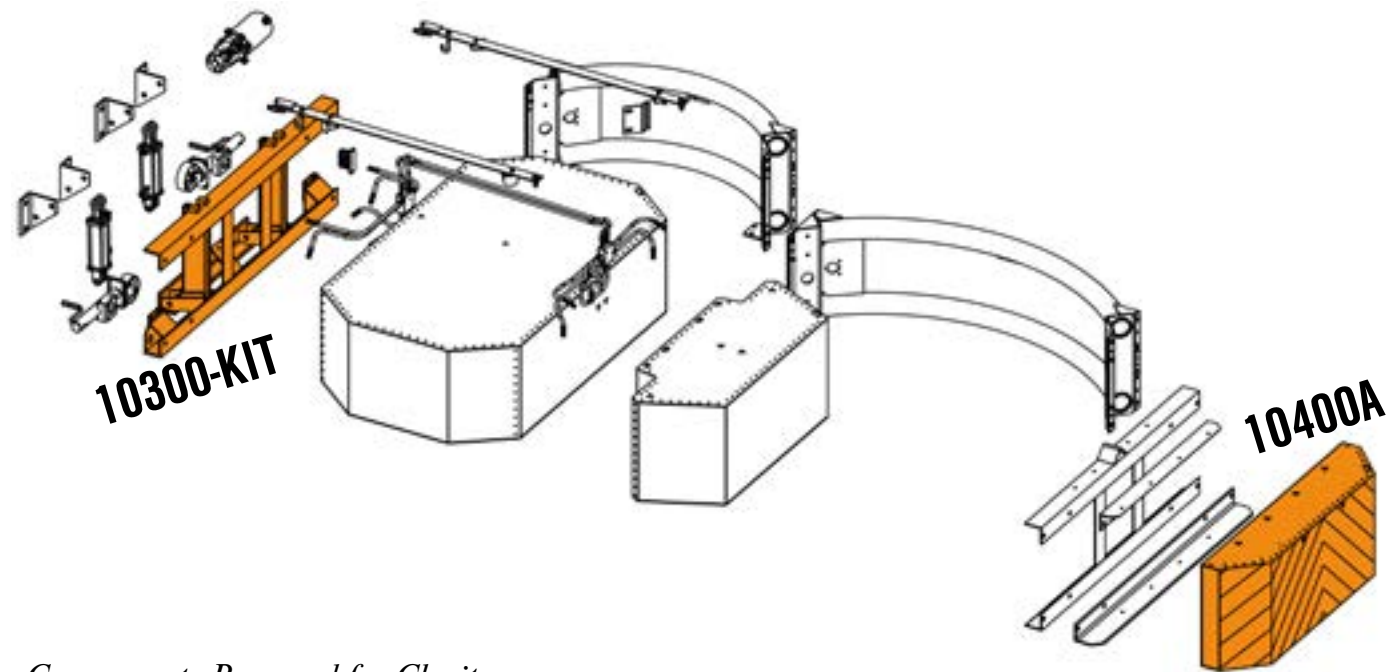


Components Removed for Clarity.

Section 2: Shared Parts
For MASH and NCHRP-350 Scorpion® TMAs

Backup and Module A

For MASH and NCHRP-350 Scorpion® TMAs



Components Removed for Clarity.



10300-KIT

Backup Frame

MASH and NCHRP-350

MASH ✓ **NCHRP-350** Includes 12017 and 12015-6.0 Pins.



10400A

Module A

Energy absorbing Module

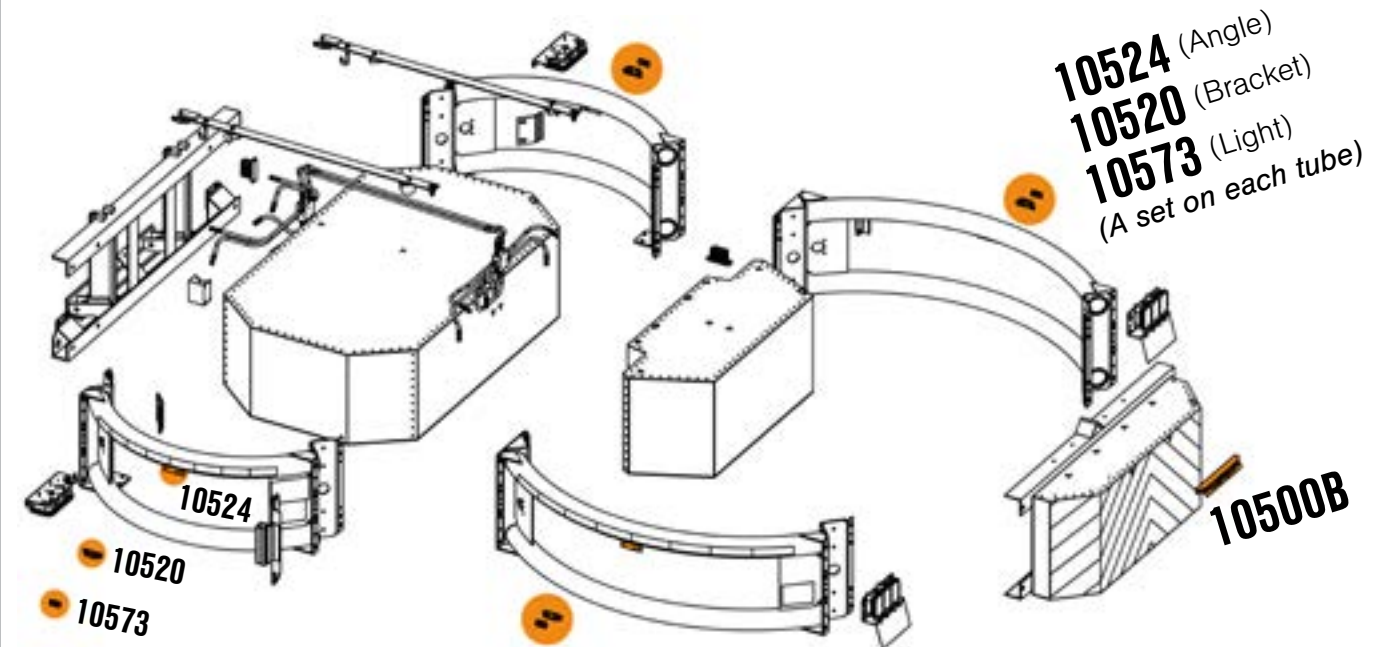
4" Yellow Sheeting

MASH and NCHRP-350

MASH ✓ **NCHRP-350**

Visibility Lights

For MASH and NCHRP-350 Scorpion® TMAs



Components Removed for Clarity.

10524

Angle, Side Marker Light



MASH ✓ **NCHRP-350**

10520

Bracket, Side Marker Light



MASH ✓ **NCHRP-350**

10573

Side Marker Light, Amber LED, Multivolt



MASH ✓ **NCHRP-350**

10500B

ICC Bar Light, LED, 12 Volt Only

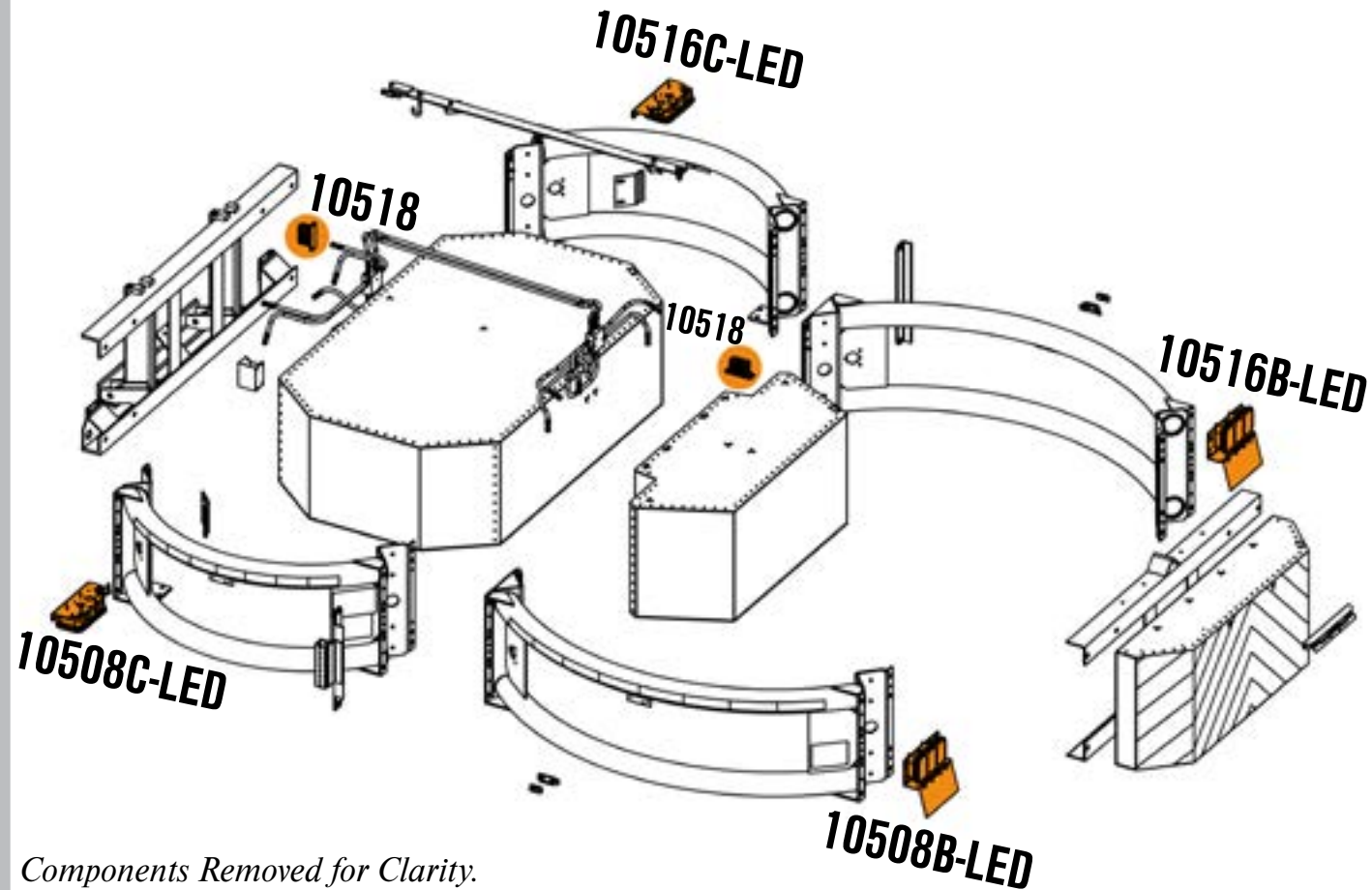


MASH ✓ **NCHRP-350**

Tail Lights and Junction

For MASH and NCHRP-350 Scorpion® TMAs

Tail Light Placement



Components Removed for Clarity.

10518

Junction Box



For cables, see
Light Wiring
on Page 32.

For *LED-Tail Light*
Hardware, see page 34.

Tail Lights

For MASH and NCHRP-350 Scorpion® TMAs

10508C-LED

Front Left, Strut Tail Light



10516C-LED

Front Right, Strut Tail Light



10508B-LED

Rear Left, Cartridge Tail Light



10516B-LED

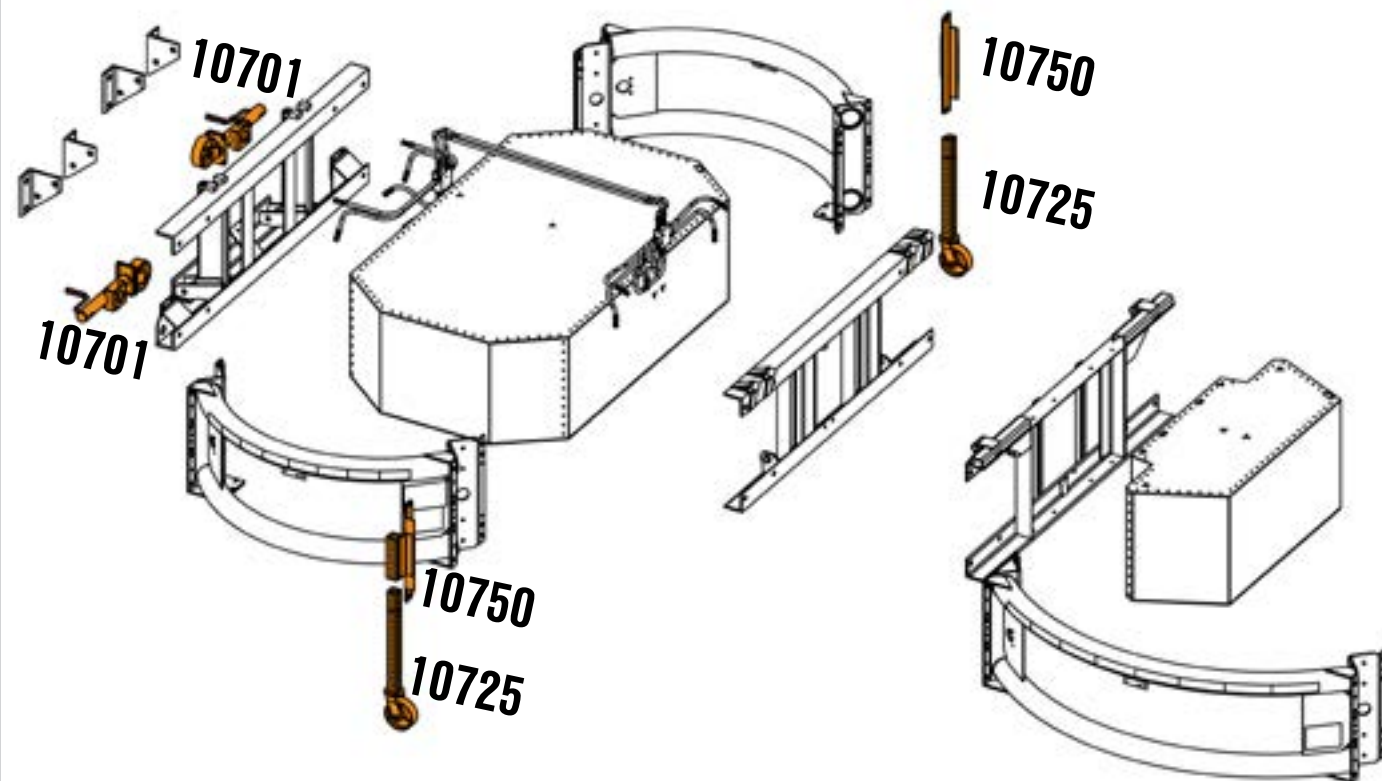
Rear Right, Cartridge Tail Light



Replacement Jacks

For MASH and NCHRP-350 Scorpion® TMAs

Jack Placement



Components Removed for Clarity.

Swivel Jack

*Choose from either Regular Duty or Heavy Duty.
Both are universal (suitable for left or right placement).*

10701

Regular Duty Swivel Jack



10701MNJ

Heavy Duty Swivel Jack



OR

Drop Jack

Universal (suitable for left or right placement).

10750

Mounting Bracket, Drop Jack



10725

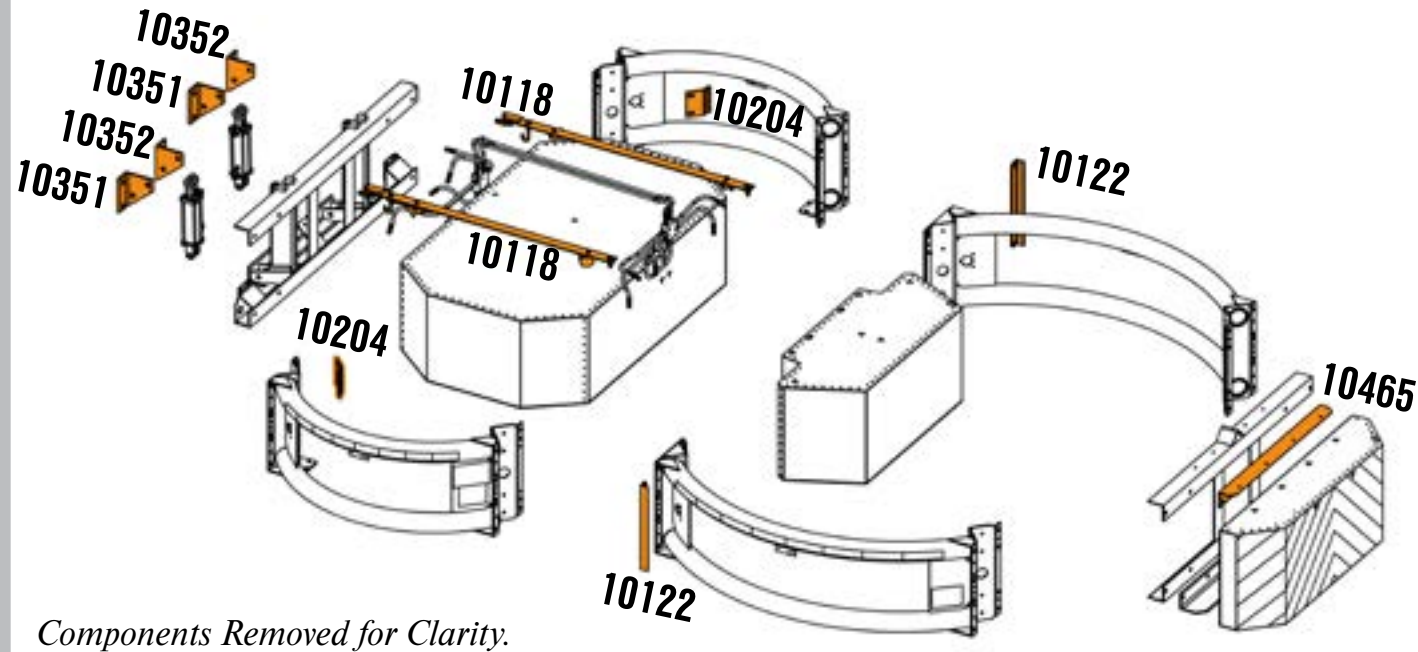
Drop Jack



Misc. Components

For MASH and NCHRP-350 Scorpion® TMAs

Placement on Scorpion



Components Removed for Clarity.

Mounting Brackets

These brackets attach the TMA to the host truck.

10352

Mounting Bracket, Left



10351

Mounting Bracket, Right



Misc. Components

For MASH and NCHRP-350 Scorpion® TMAs

10204

Energy-Absorbing Bracket

Universal - (suitable for left or right placement)



10118

Tension Strap Set

Universal, Includes pair of straps



10122

Vertical Support Angle
Attaches to cartridge tube.
Universal.



10465

Rear Top Angle
Attaches to Module A.



Motor and Electronics

For MASH and NCHRP-350 Scorpion® TMAs



Motor Assembly

11010 (12 Volt)

11011 (24 Volt)

(Includes Valves, Solenoid, and Cap)



10507C
Motion Alarm



11026

Controller
2-Way Switch
with Cable
& Connector

Fuses

12049

Fuse, 12 Volt, 250 Amp

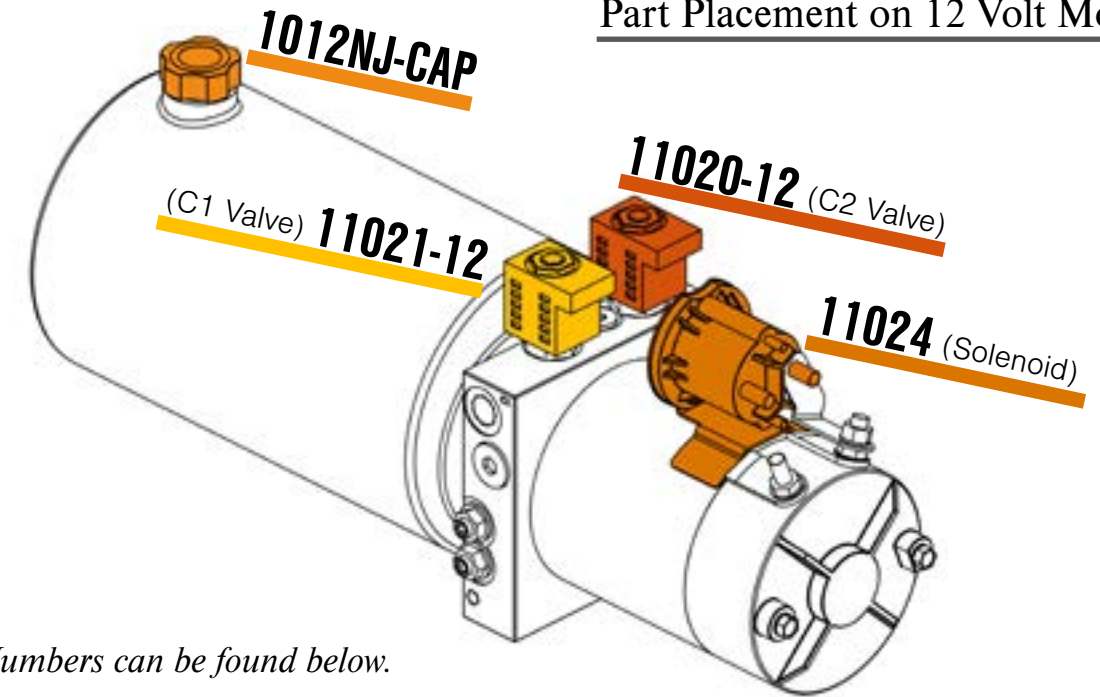


12089

Fuse, 24 Volt, 150 Amp



Part Placement on 12 Volt Motor



24 Volt Part Numbers can be found below.

11012NJ-CAP

Cap



11024 (12 Volt)

11025 (24 Volt)

Solenoid

Valves

11020-12 (12 Volt)

11020-24 (24 Volt)

C2 Valve



11021-12 (12 Volt)

11021-24 (24 Volt)

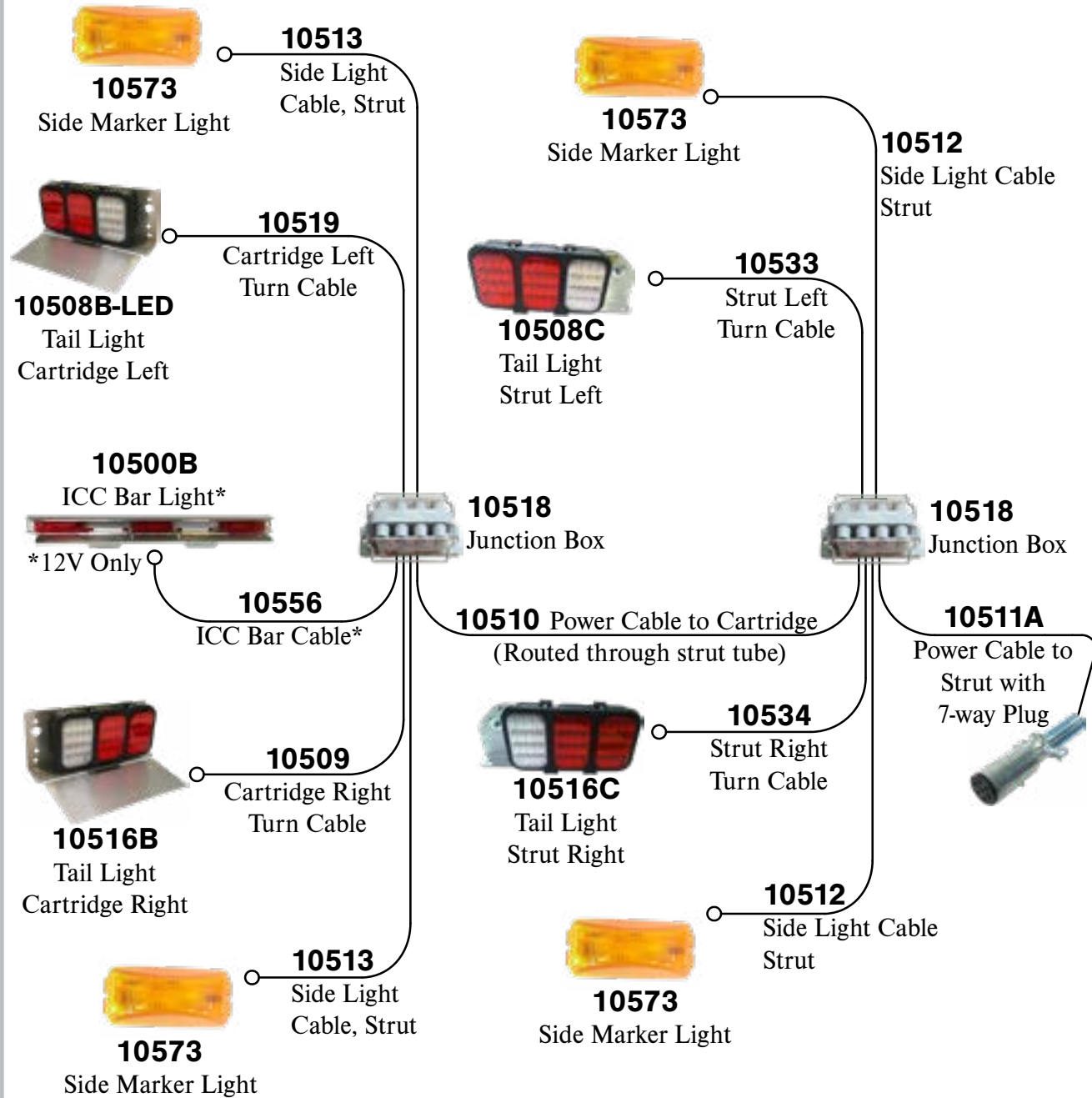
C1 Valve



Appendix A
Drawings & Hardware

Light Wiring

For MASH and NCHRP-350 Scorpion® TMAs



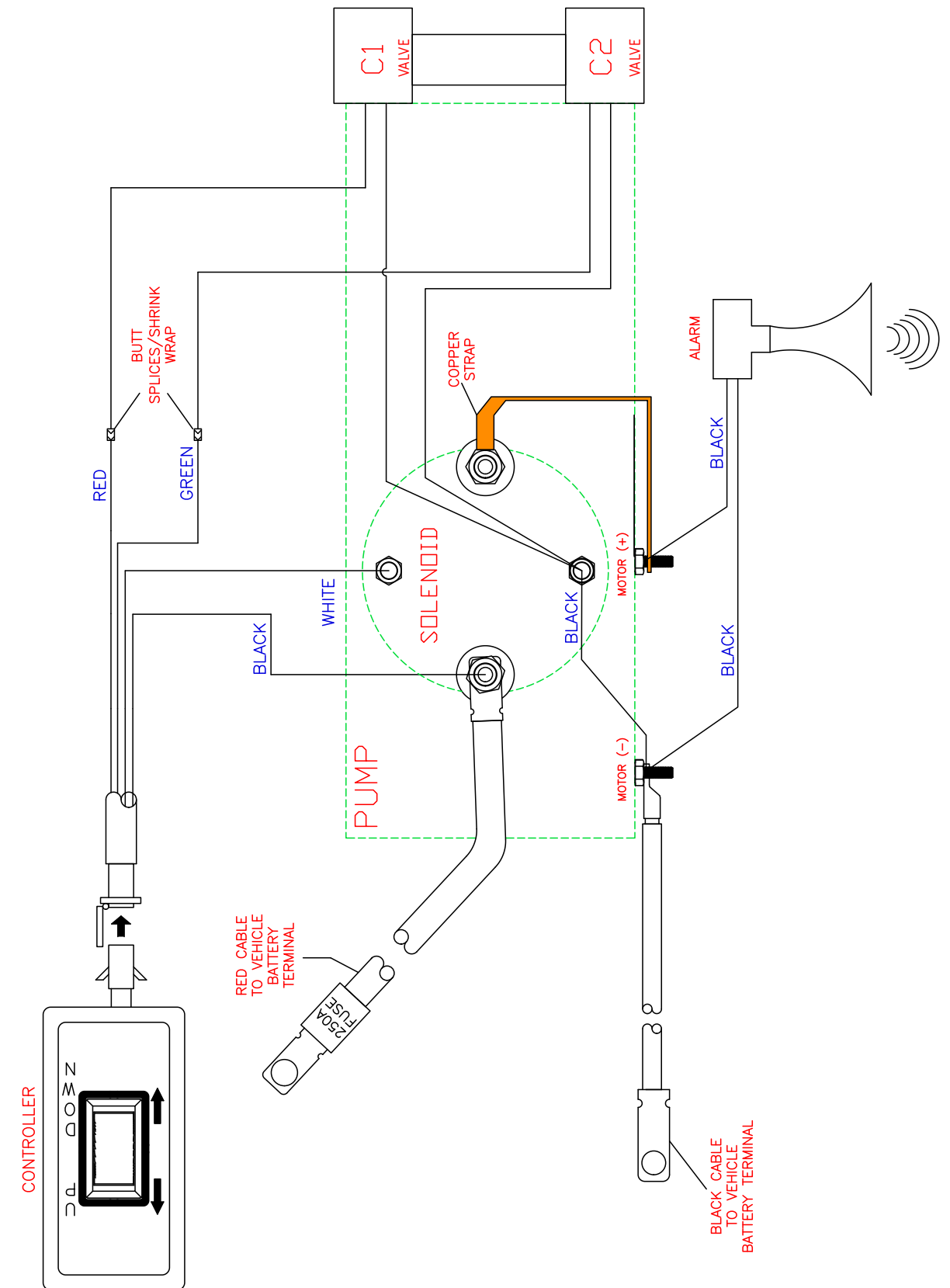
All parts on this page



	White	Ground
	Black	Open Circuit
	Yellow	Left Turn
	Red	Stop
	Green	Right Turn
	Brown	Running/Clearance
	Blue	Reverse

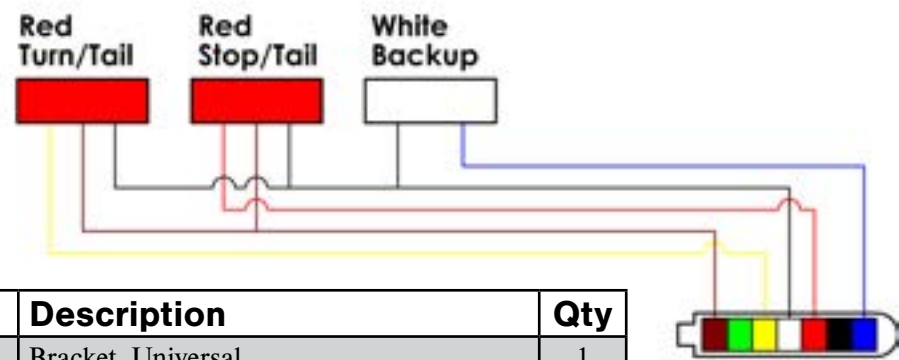
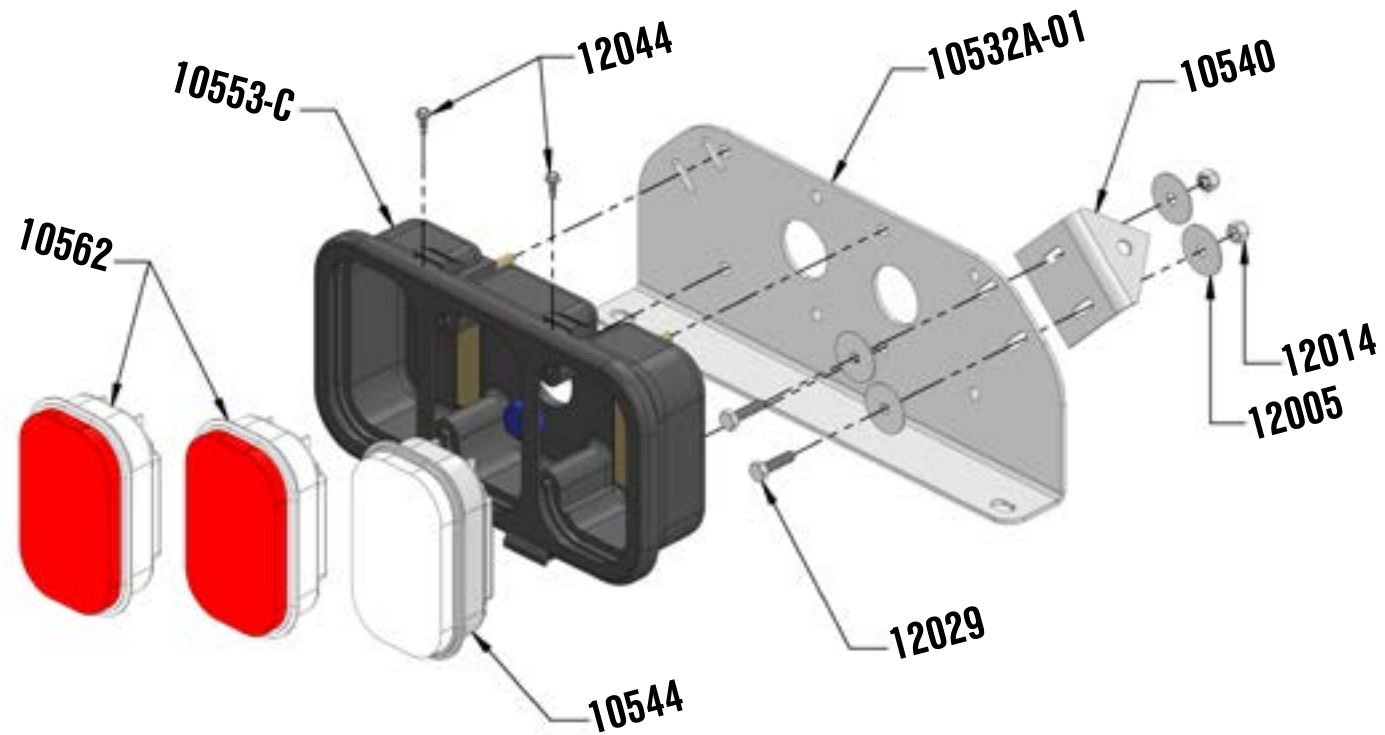
Motor and Electronics Wiring

For MASH and NCHRP-350 Scorpion® TMAs



Left Strut Tail Light Hardware 10508C-LED

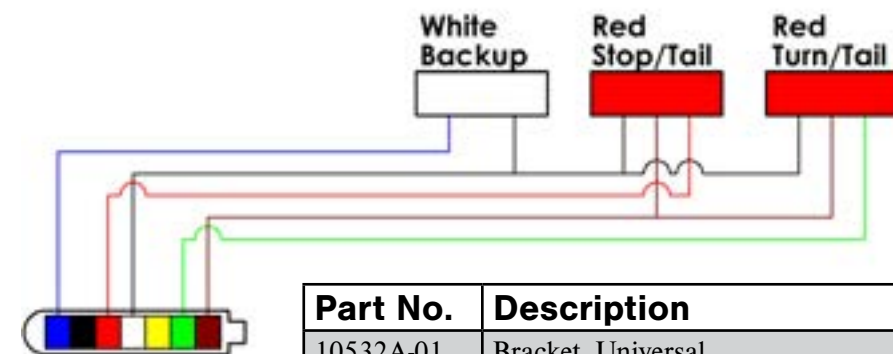
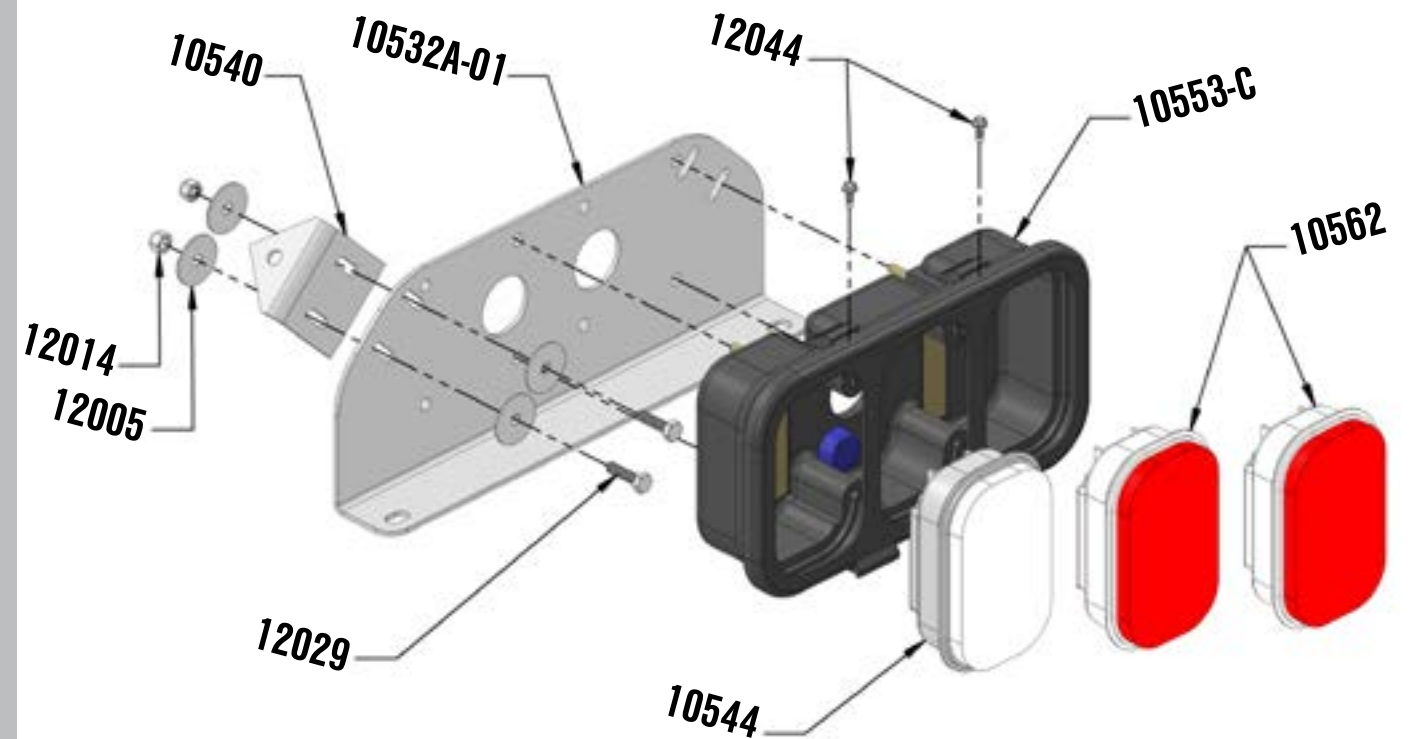
For MASH and NCHRP-350 Scorpion® TMAs



Part No.	Description	Qty
10532A-01	Bracket, Universal	1
10540	Adjustment Angle	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn-Tail	2
10544	LED Light, White, Backup	1
10533	Strut Tail Light Cable, Left, 48 Inch	1
12029	Bolt, HHCS, 1/4"-20 x 1"	2
12005	Fender Washer, 1/4"	4
12014	Locknut, 1/4"-20	2
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

Right Strut Tail Light Hardware 10516C-LED

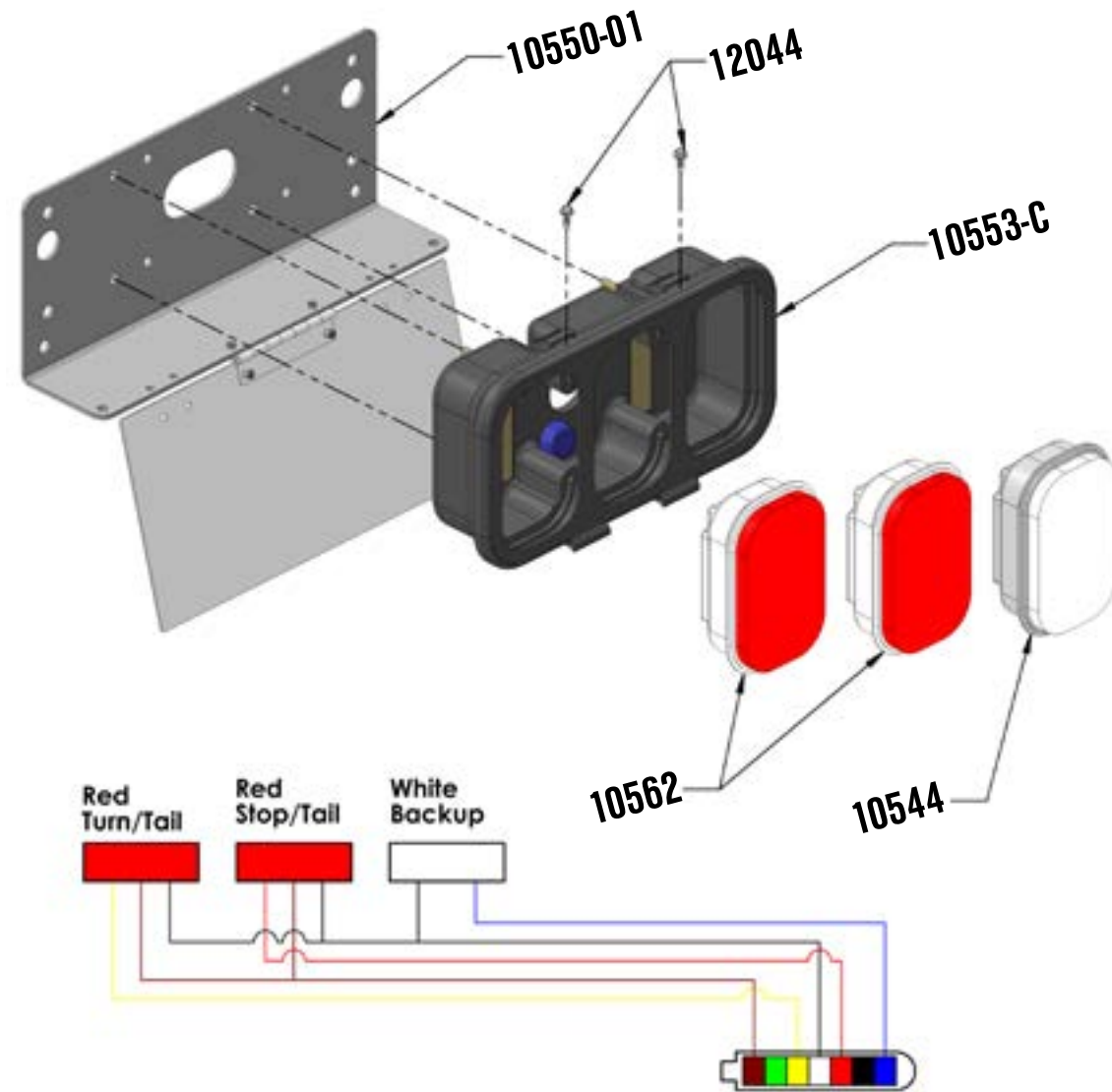
For MASH and NCHRP-350 Scorpion® TMAs



Part No.	Description	Qty
10532A-01	Bracket, Universal	1
10540	Adjustment Angle	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn-Tail	2
10544	LED Light, White, Backup	1
10534	Strut Tail Light Cable, Right, 48 Inch	1
12029	Bolt, HHCS, 1/4"-20 x 1"	2
12005	Fender Washer, 1/4"	4
12014	Locknut, 1/4"-20	2
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

Left Cartridge Tail Light 10508B-LED Hardware

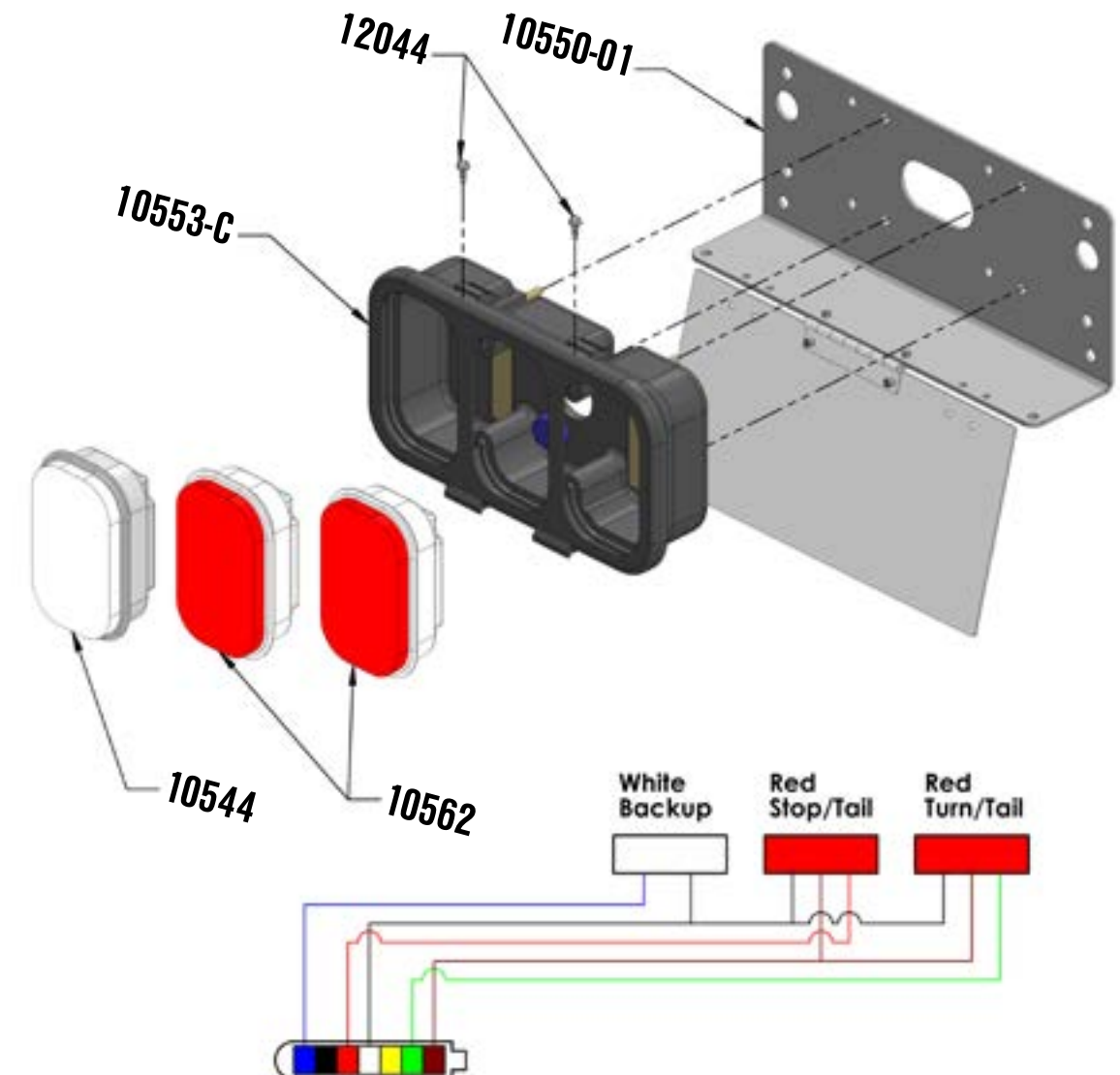
For MASH and NCHRP-350 Scorpion® TMAs



Part No.	Description	Qty
10550-01	Bracket with Metal Flap, Universal	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn-Tail	2
10544	LED Light, White, Backup	1
10519	Cartridge Tail Light Cable, Left, 120 Inch	1
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

Right Cartridge Tail Light 10516B-LED Hardware

For MASH and NCHRP-350 Scorpion® TMAs

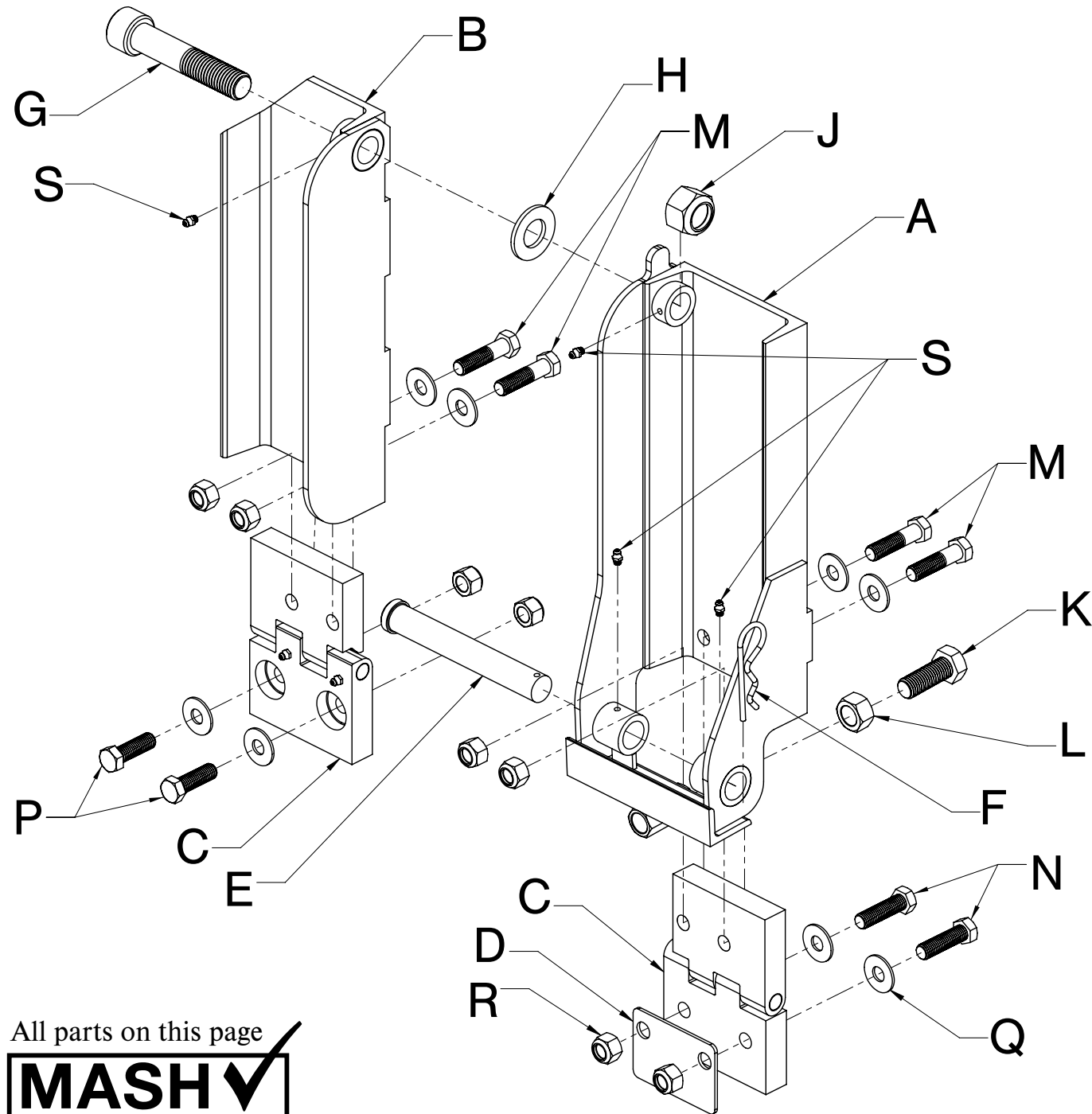


Part No.	Description	Qty
10550-01	Bracket w/ Metal Flap, Universal	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn -Tail	2
10544	LED Light, White, Backup	1
10509	Cartridge Tail Light Cable, Right, 120 Inch	1
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

Lockout Arm Hardware

For TraFix MASH Scorpion II® TMA Only

Part Placement Reference Drawing



All parts on this page



Lockout Arm Hardware

For TraFix MASH Scorpion II® TMA Only

Part Number Reference Table

Ref.	Description	Part Number	Qty.
A	Lockout Arm, Strut Side	11860	1
B	Lockout Arm, Cartridge Side	11850	1
C	Lockout Arm Hinge	12216	2
D	Wear Plate	11855	1
E	Clevis Pin, 1" x 6.75", Zn Plated	12143	1
F	Keeper Pin	12017	1
G	Bolt, SHCS, 1" x 3.75", Alloy Steel	12393-ZUR-3.75	1
H	Washer, 1" SAE, Zn Plated	12001	1
J	Locknut, 1"-8, Grade 8	12012	1
K	Bolt, HHCS, 3/4"-10 x 2", Grade 5	12006	1
L	Nut, Hex, 3/4"-10, Grade 5	12451-ZUM	1
M	Bolt, HHCS, 9/16"-12 x 2.25", Grade 8	12381-YUH-2.25	4
N	Bolt, HHCS, 9/16"-12 x 2", Grade 8	12381-YUH-2.0	2
P	Bolt, HHCS, 9/16"-12 x 1.75", Grade 8	12381-YUH-1.75	2
Q	Washer, 9/16" USS, Grade 8	12075	8
R	Locknut, 9/16"-12, Grade 8	12066	8
S	Grease Fitting, 1/4"-28 Thread	12076	4

All parts on this page



**TraFFix
Devices Inc.**



Engineered Products for Safer Highways

tech@traffixdevices.com

(949) 361-5663

© 2019 TraFFix Devices