

MILBOATSTECHMAN/BK-07

VERSION 2

MILITARY EMERGENCY BOAT SERVICE TECHNICAL MANUAL BOOK 07

LANDING CRAFT 350 CLASS

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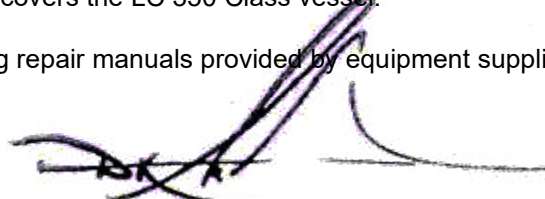
PUBLISHED BY DIRECTION OF COMMANDER, NEW YORK NAVAL MILITIA

22FEB23

From: Commander, New York State Military Emergency Boat Service

Subj: PROMULGATION OF MILITARY BOATS TECHNICAL MANUAL SERIES
BOOK 7; LC 350 CLASS VESSEL

1. The New York State Military Emergency Boat Service Technical Manuals (MILBOATSTECHMAN) are consolidated information for each class of vessel in the boat service. They are intended to provide basic information regarding each class, with an overview on operational parameters, missions, equipment layout, and some basic troubleshooting guides if not provided by commercial owner's manuals.
2. Book 7 of the MILBOATSTECHMAN covers the LC 350 Class vessel.
3. This manual does not replace existing repair manuals provided by equipment suppliers.

A handwritten signature in blue ink, appearing to read 'D. K. McKnight', is written over a horizontal line. The signature is stylized and somewhat cursive.

D. K. McKNIGHT
CAPT NYNM



LC 350 New York Harbor

**LC 350 CLASS VESSEL
INFORMATION AND OPERATIONAL CAPABILITIES**

A. General.

The LC 350 Class vessel is a 39 foot boat (LOA) with twin outboard engines, and includes an accompanying trailer.

The class consists of two boats, built by William E. Munson Company, of Burlington, Washington. LC-350 was received in July 2018. LC-351 was received in March 2022.

1. The model of boat is: Munson 35 PackCat
2. Length: hull length: 35 feet. Length Overall (LOA): 39 feet, 0 inches.
3. Beam: 12 feet 2.5 inches
4. Hull type: Catamaran
5. Draft: Motor in lowered position: 30 inches
6. Freeboard: 41 inches
7. Height on trailer: 13 feet 1 inches
8. Average full weight: 15,000 lbs. with fuel
9. Fuel capacity: 300 gallons (gasoline), 1 tank
10. Crew size: 2-3 (Maximum 30 persons)
11. Propulsion:

LC-350: Two Mercury Optimax 250 hp 2-stroke outboard motors

LC-351: Two Mercury Four-stroke 250 hp V-8 outboard motors
 - a. Maximum speed: 45 MPH (6000 RPM)
12. Generator: n/a

B. Operational Parameters.

The following are important guidelines to safely operate the vessel:

1. **Adding cargo or other weight forward will change the center of buoyancy, causing the bow to settle further into the water, especially at slower speeds.**

a. Do not open bow door until vessel is at bare steerageway, or stopped. Otherwise, flooding may occur. This is especially important when carrying any cargo or weight in the forward area. (see image)



b. Plug the 1" drains near the bow door to prevent water coming up onto the deck.

2. LC-350 (only) is equipped with two-stroke engines, which consume injection oil along with gasoline. Operators must routinely check injection oil levels in the reservoirs found in the locker at the transom to ensure adequate supply.

3. The radar arch is designed to be removable for trailering operations. There are 8 nuts/bolts that secure arch (which includes blue strobe lights, radar sensor, and white light mast) to the cabin roof. The arch must be removed for trailering on public roads.

4. The vessel is considered a "Wide-Load" for towing.

C. Missions.

The boat is capable of several missions including patrol and cargo/personnel lift. With an enclosed and heated cabin, it is suitable for year-round operations. With a catamaran hull, it is a stable platform well-suited to operate in rough waters. For the purposes of NYNM, the primary missions are cargo lift and maritime patrol.

D. Features.

The boat includes the following features and components:

1. Hull:
 - a. Aluminum construction, with 5/16-inch bottom plate, 1/4-inch side plate, and 3/16 inch deck plate.
 - b. Catamaran hull
 - c. Welded aluminum bow, stern, roof, and aft cabin rails
 - d. 84in bow door with manual winch and safety chains. Rated to 4000 lbs.
 - e. Push knees, port and starboard bows.

- f. Centerline wave breaker between the two catamaran hulls.
 - g. Lifting crane, starboard; 500 lbs. capacity.
 - h. Access door, starboard.
 - i. All cabinets are key-lockable. SouthCo Orca T-handle compression latch.
2. Deck:
- a. (6) Aluminum tie-down pockets, rated at 500lbs each.
 - b. Self bailing scuppers
 - c. (8) 10-inch welded cleats
 - d. 4-inch aluminum tow post
 - e. Hatches (2) aft, (1) cabin, (2) bow
 - f. Bow locker for anchor storage
3. Cabin:
- SeaGlaze.
- a. Forward leaning windshield with ¼-inch clear, tempered glass-Diamond
 - b. Sliding Diamond SeaGlaze side windows
 - c. Windshield wipers (2 speed) (3)
 - f. Overhead grab rails
 - h. Heater, diesel WEBASTO 40 Airtop with 5-gallon fuel tank.
 - h. 2 Bentley Captains seats, 1 bench
 - i. Carbon monoxide detector-Xintex
 - j. Removable radar arch
4. Engines:
- a. LC-350: Twin outboards; 250 hp Mercury Optimax two-stroke, counter rotating
(1) Ref: Mercury Marine Manual 8M0113742 1215
 - b. LC-351: Twin outboards; 250 hp Mercury four-stroke, counter rotating
(1) Ref: Mercury Marine Manual 8M0175492
5. Generator: N/A
6. Steering:
- a. Seastar Helm wheel

7. Fuel system:
 - a. 300 gallons (single tank, centerline)
 - b. Fuel tank fills on port side
 - c. Requires two-stroke injection oil
8. Electrical system:
 - a. 12VDC system with three batteries (port, starboard, house)
 - b. Electronic battery charger – Xantrex TrueCharge2
 - c. 8 breaker panel-Blue Sea Systems, 12 VDC
 - d. Bilge pump - Rule-Mate 2000 GPH (4)
 - e. Shore power connection: Marinco 50-foot, 30amp, 125 volt, 2 pole, 3 wire yellow 10AWG
 - f. 12 VDC outlets (2) on dash, including USB ports.
 - g. 120 VAC outlet to the right of helm station near deck
9. Lighting:
 - a. Navigation/anchor lights -
 - b. Dual blue strobe lights on radar arch
 - c. Interior LED lighting including red night lights
 - d. Fore/aft deck flood lights
10. Navigation and electronics:
 - a. Multi-Function Device - Furuno TZTouch 12 with NAVnet
(1) Ref: Furuno Electric Co Pub. No. OSE-44870-A

Operational Overview

Home screen operations

Tap

Home icon
Displays the home screen.

Display icons
(max. 10)

Tap

"eGuide" provides an abbreviated operator's guide.

Home screen

How to edit a display icon
Long tap a display icon to edit, delete, resize, or change its location.

Tap

Edit Delete

Size (large or small)

Display icon long tapped

POWER switch

- Power on/off.
- Adjusts display brilliance.
- Changes hue.

How to select a display

- From the home screen (see above)
- From the quick page

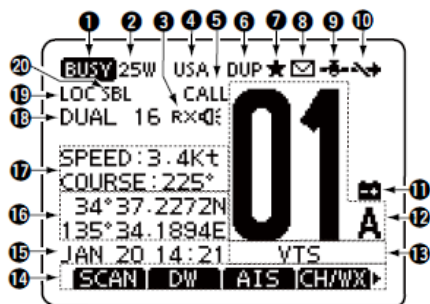
Tap

The quick page has the display icons selected to large size on the home screen.

Quick page

- Binnacle compass - Ritchie Helmsman HF743
- AIS – em-trak A100 Class A
- Marine VHF Radio – ICOM M506 (2)

■ Function display



1 BUSY/TRANSMIT ICON (pp. 11, 12)

- The "BUSY" icon appears when receiving a signal or when the squelch is open.
- The "TX" icon appears while transmitting.

2 POWER ICON (p. 11)

- The "25W" icon appears when high power is selected.
- The "1W" icon appears when low power is selected.

3 RX HAILER ICON (p. 75)

- Appears while in the RX Hailer mode.

4 CHANNEL GROUP ICON (p. 10)

- The selected channel group icon, USA "USA," International "INT" or Canadian "CAN" appears.
- The "WX" icon appears when the weather channel is selected.

14 KEY ICON (p. 7)

- Shows the programmed function of the softkeys on the front panel.

15 TIME ZONE INDICATOR

- Shows the current time when a GPS receiver is connected, or the time is manually programmed.
 - When the GPS current time is invalid, "??" will blink every 2 seconds instead of the current time. After 23.5 hours has passed, "NO TIME" will appear.
 - "??" will blink every 2 seconds instead of the current time, after 4 hours have passed from when the time was manually programmed. The manually programmed time is held for only 23.5 hours, and after that, "NO TIME" will appear.
- "LOCAL" appears when the offset time is set.
- "MNL" appears when the time is manually programmed.
- "UTC" appears when the GGA, GLL or GNS GPS sentence formats are included in the GPS signal.
- The date information appears when the RMC GPS sentence formats are included in the GPS signal.
- "NO TIME" appears when no GPS receiver is connected, and no time is manually input.

15 POSITION INDICATOR

- Shows the current position when a GPS receiver is connected, or the position is manually programmed.
 - When the GPS position is invalid, "??" may blink every 2 seconds instead of position. The last position is held for only 23.5 hours, and after that, "NO POSITION" will appear.

5 CALL CHANNEL ICON (p. 9)

- Appears when the Call channel is selected.

6 DUPLEX ICON (p. 10)

- Appears when a duplex channel is selected.

7 FAVORITE CHANNEL ICON (p. 17)

- Appears when a Favorite (Tag) channel is selected.

8 MESSAGE ICON

- Blinks when there is an unread DSC message.

9 GPS ICON

- Stays ON when the GPS receiver is activated and valid position data is received.
- Blinks when invalid position data is being received.

10 SWITCH ICON (p. 69)

- Appears when the "CH 16 SWITCH" in DSC Settings is set to OFF.

11 LOW BATTERY ICON

- Blinks when the battery voltage drops to approximately 10.8 V DC or less.

12 CHANNEL NUMBER READOUT

- Shows the selected operating channel number.
 - When a simplex channel is selected, "A" or "B" appears.

13 CHANNEL NAME FIELD

- The channel name appears, if programmed. (p. 13)

- "??" will blink every 2 seconds instead of position, after 4 hours have passed from when the position is manually programmed. The manually programmed position is held for only 23.5 hours, and after that, "NO POSITION" will appear.
- "NO POSITION" appears when no GPS receiver is connected, and no position is manually input.

17 COURSE/SPEED INDICATOR

- Shows the course and speed of your vessel if the GPS receiver is connected to the transceiver.
 - Course and speed are displayed when the RMC GPS sentence format is included in the GPS signal.
 - Course and speed are also displayed when the VTG and either the GGA, GLL or GNS GPS sentence formats are included in the GPS signal.

18 SCAN INDICATOR

- "SCAN 16" appears during a Priority scan; "SCAN" appears during a Normal scan. (p. 17)
- "DUAL 16" appears during Dualwatch; "TRI 16" appears during Tri-watch. (p. 18)

19 LOCAL ICON (p. 11)


- Appears when the Attenuator function is turned ON.

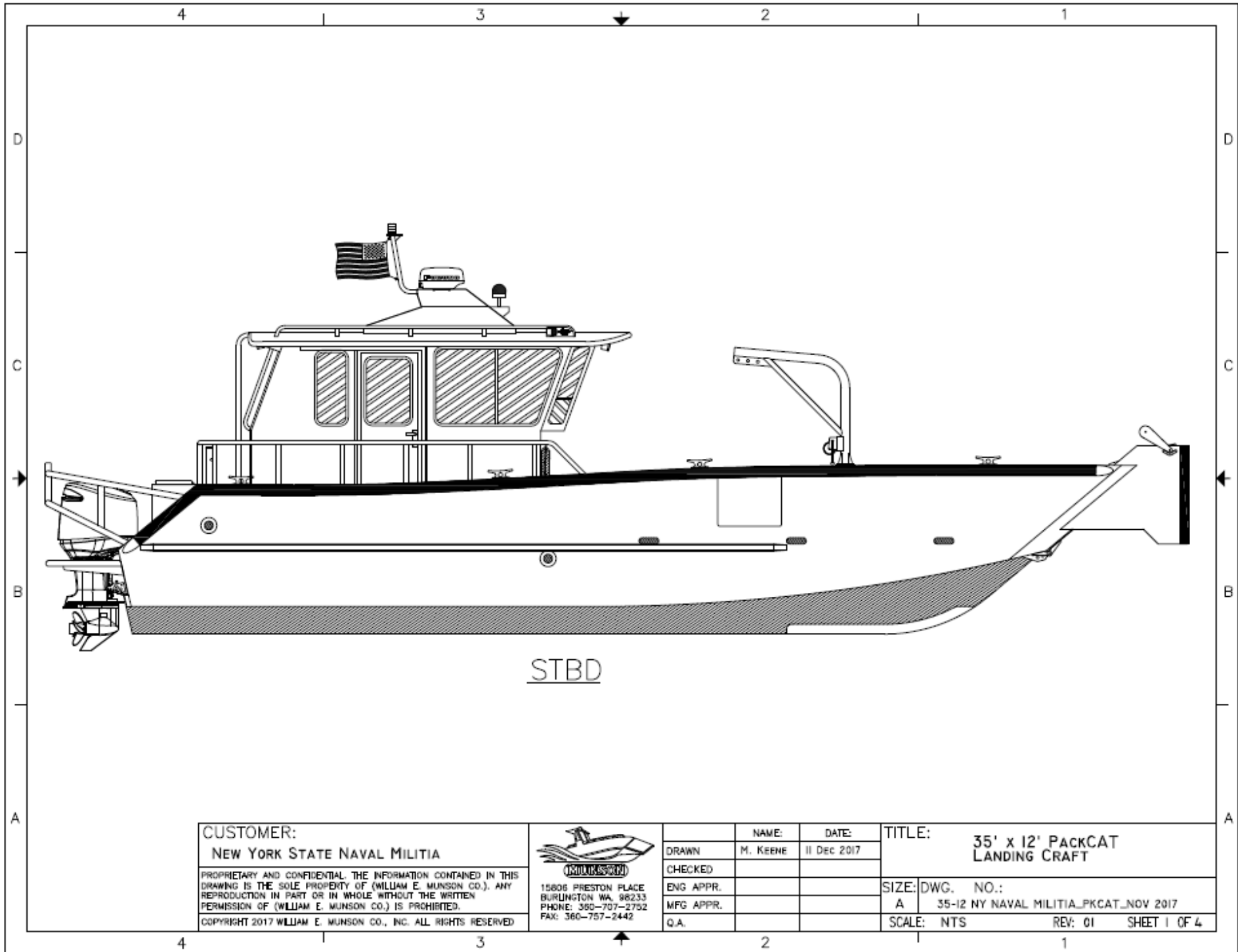
20 VOICE SCRAMBLER ICON* (p. 78)

- Appears when the Voice Scrambler function is turned ON.
 - *Appears only when the voice scrambler unit is installed.


11. Gauges:

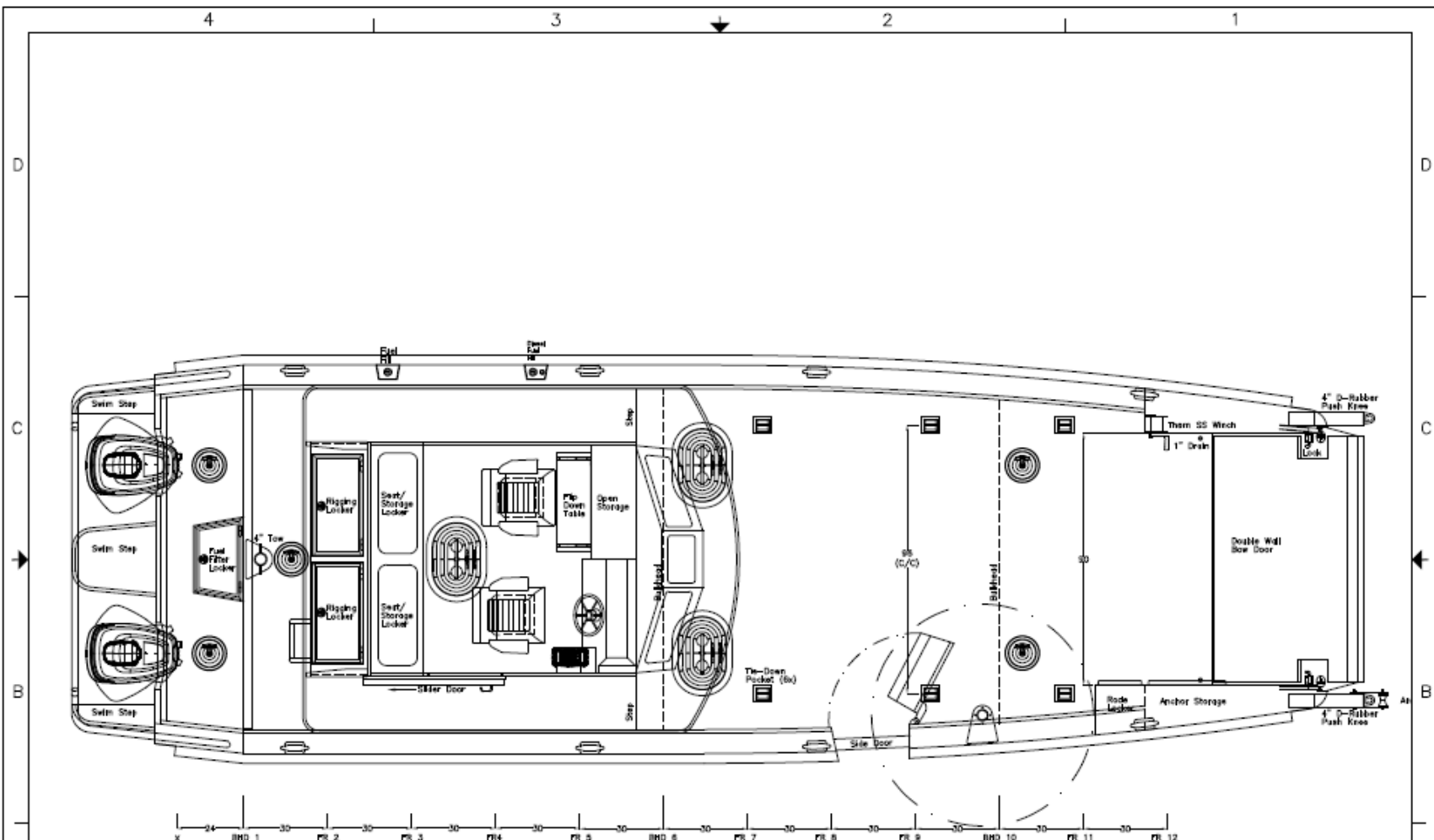
a. Mercury SmartCraft

- b. Fuel gauge on center gauge menu
- 12. Ground tackle:
 - a. Anchor, 16 lbs. Danforth Standard S1300;
- 13. Safety equipment:
 - a. (2) Fire extinguisher – 10 lb., ABC
 - b. PDFs (Type III)
 - c. Emergency flare kit
 - d. Ring buoy
 - e. Electric horn
- 14. Trailer:
 - a.  Tri-axle trailer – Tuff Trailer MTT18200TG aluminum
 - b. GVWR: 21000 lbs.
 - c. 18,200 lb. capacity
 - d. Trailer weight: 2800 lbs.
 - e. Hand winch, Hydrastar surge brakes, spare tire
 - f. Trailer is 42 feet 6 inches in length when combined with boat.
 - g. Trailer dimensions: 36 feet 8 inches long, 8 feet 7 inches wide.



STBD

CUSTOMER: NEW YORK STATE NAVAL MILITIA			NAME: M. KEENE	DATE: 11 Dec 2017	TITLE: 35' x 12' PACKCAT LANDING CRAFT		
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			ENG APPR. 	MFG APPR. 	SCALE: NTS	REV: 01	SHEET 1 OF 4



PLAN VIEW

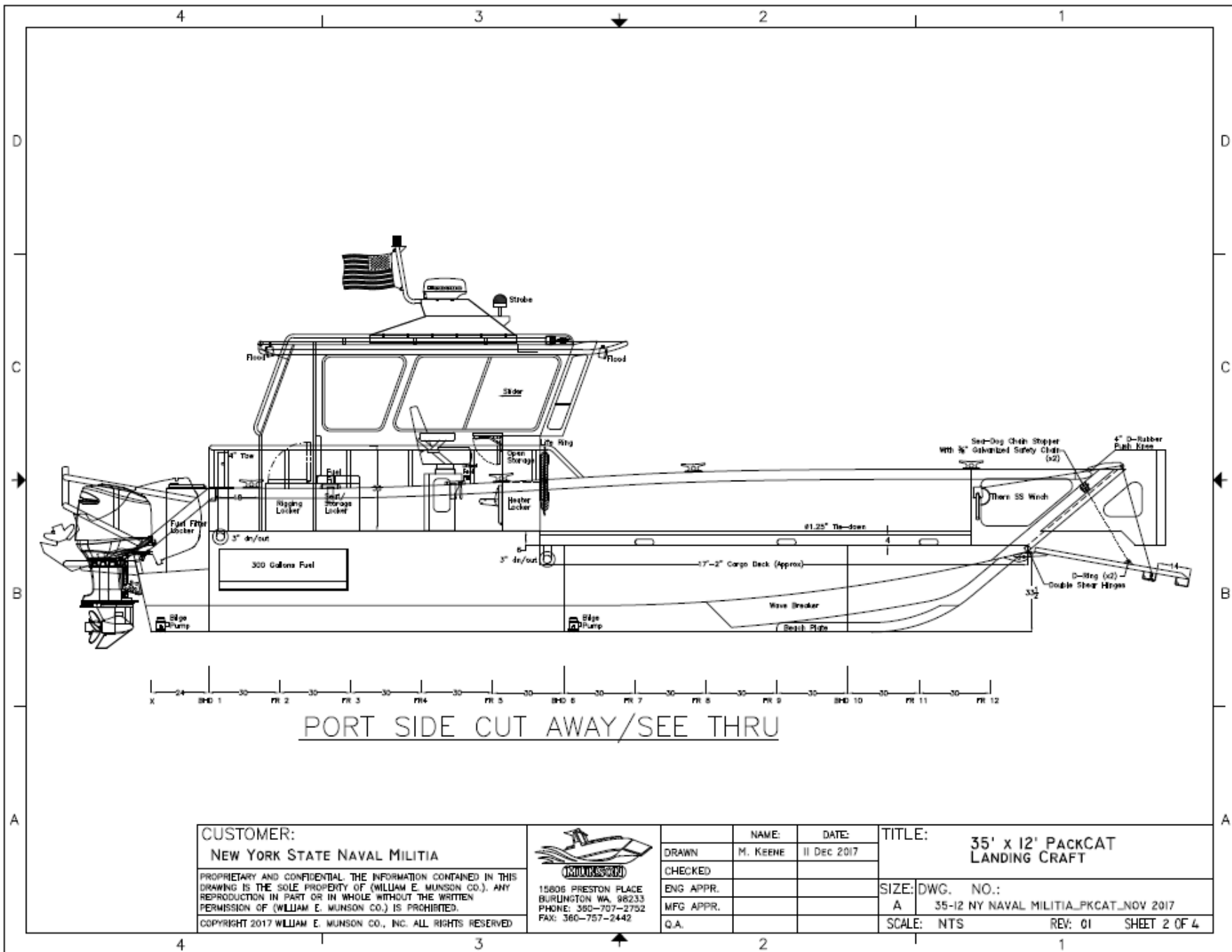
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35' x 12' PackCAT LANDING CRAFT	
SIZE:	DWG. NO.:
A	35-12 NY NAVAL MILITIA_PKCAT_NOV 2017
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PORT SIDE CUT AWAY/SEE THRU

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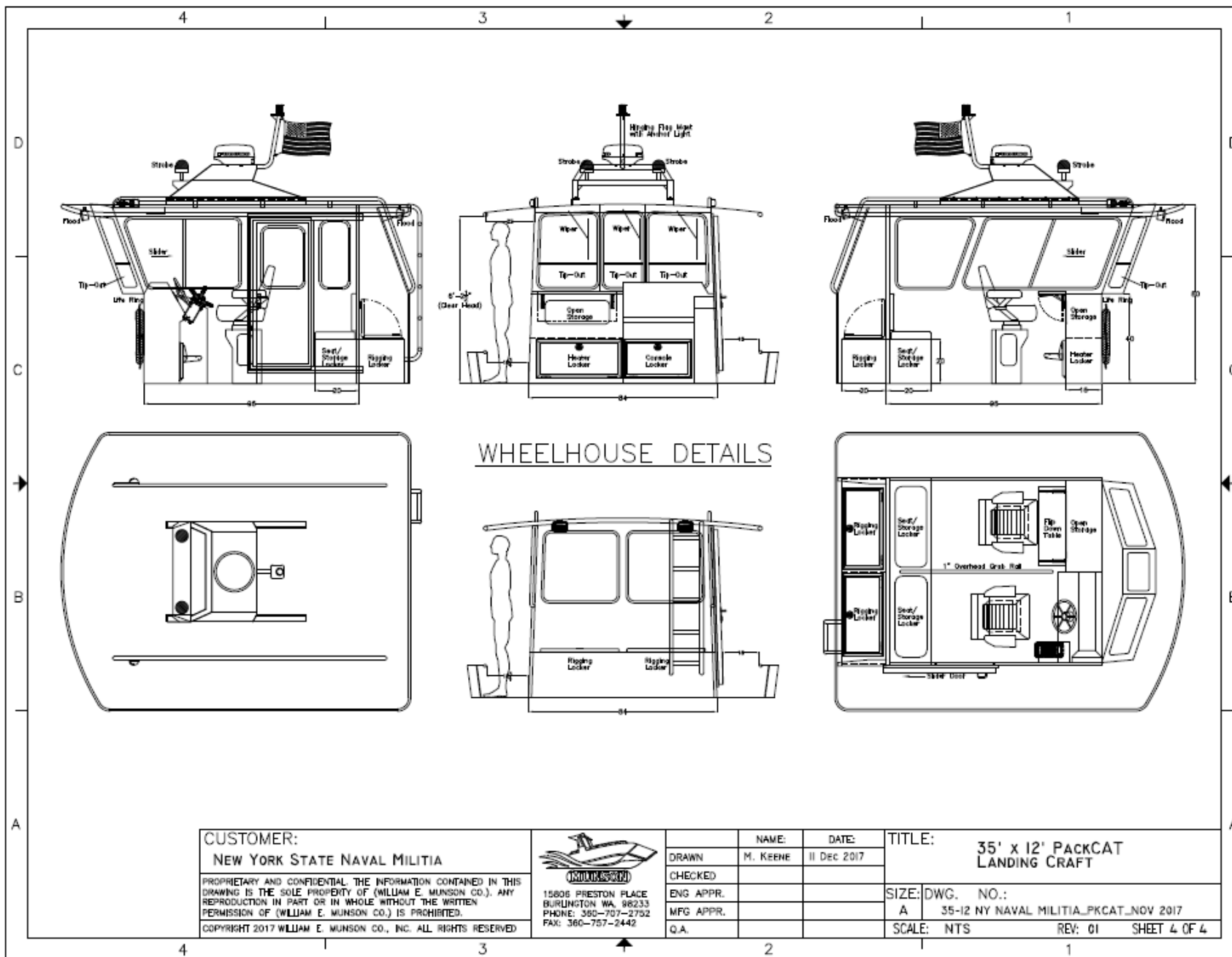
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35' x 12' PackCAT LANDING CRAFT
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A 35-12 NY NAVAL MILITIA_PKCAT_NOV 2017
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Q.A.:			

TITLE:	35' x 12' PACKCAT LANDING CRAFT		
SIZE:	DWG. NO.:	A 35-12 NY NAVAL MILITIA_PKCAT_NOV 2017	
SCALE:	NTS	REV:	01 SHEET 4 OF 4



(LC 350 Bow view)



(LC 350 Stern view)



(LC 350 Cabin)



(WEBASTO diesel heater)

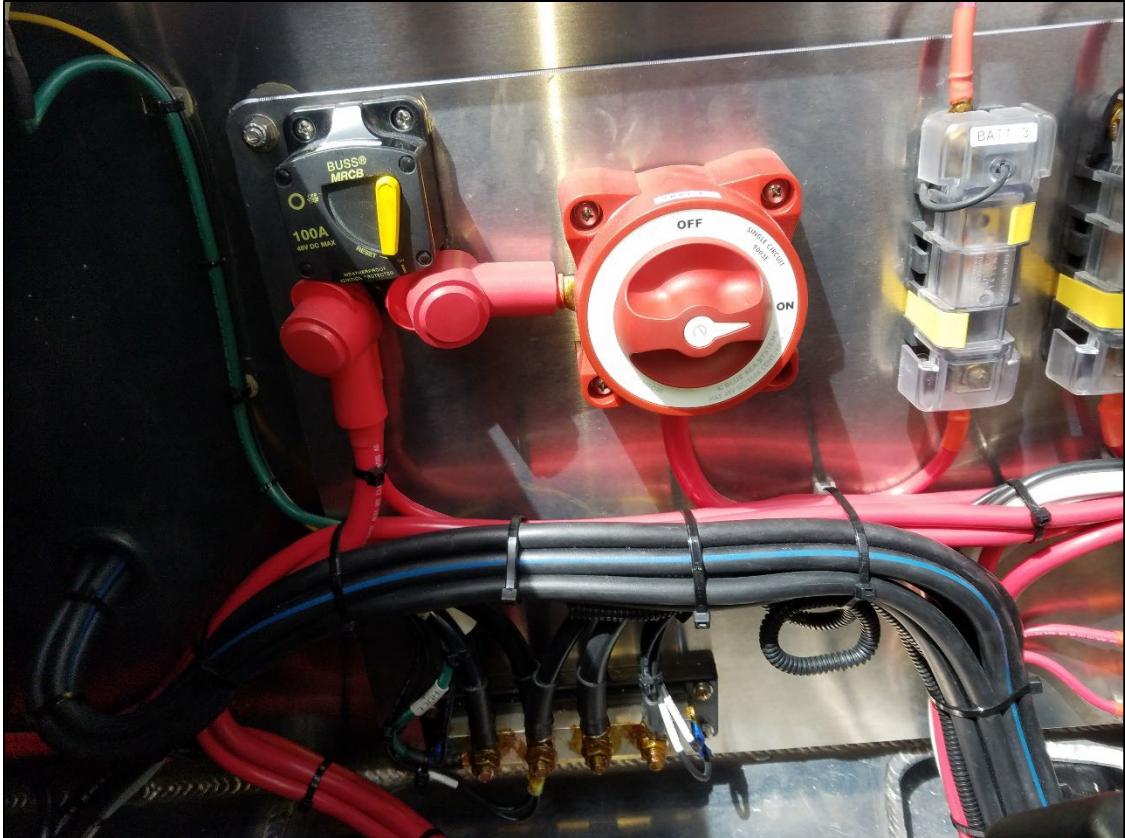


(Helm console)

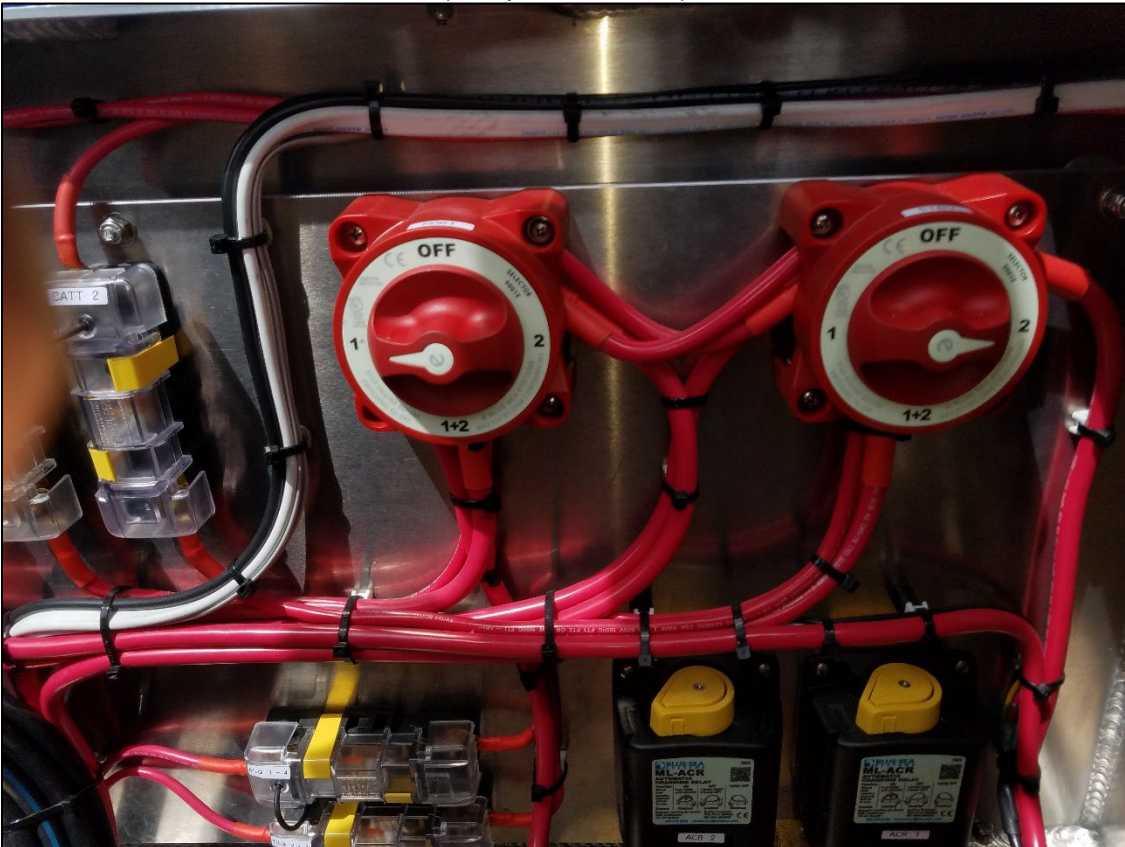
(Engine controller)



(Electrical switch panel)



(Battery isolator switches)



Fuel System

Introduction:

The fuel system of your Munson Boat has been specifically designed and constructed for your vessel. It has been tested and inspected in accordance with ABYC and CFR standards to ensure safe operation and environmental compliance.

Specifications & Capacities:

Boat Model	PackCAT
Boat Length	35'
HIN	MUN887PKC818
Tank Description	Single Fuel Tank
Tank Total Volume	327 GAL
Tank Rated Capacity	300 GAL

Fueling Your Vessel:

Proper fueling is very important in preventing onboard fires. Gasoline vapors are heavier than air and can spread rapidly into enclosed spaces. Refer to section III of the owner's manual for pre-departure recommendations on inspecting / clearing the fuel tank void of vapors.

Under federal law (the Oil Pollution Act of 1990 and the Clean Water Act) it is illegal to discharge any petroleum product into the water. By law, any oil or fuel spill that leaves a sheen on the water must be reported to the U.S. Coast Guard at **1-800-424-8802**.

WARNING: NEVER TOP OFF YOUR FUEL TANKS AFTER AUTOMATIC PUMP SHUTOFF. DOING SO MAY RESULT IN DAMAGE TO EVAPORATIVE EMISSIONS SYSTEM

Emission Certification Information & Testing:

Fuel Tank:

Munson Fuel Tanks are constructed with .25" 5052 – H32 Aluminum and meet all permeation emission control requirements listed under 40 CFR 1060.103. All tanks undergo Static pressure testing in accordance with procedures specified under 33CFR 183.580.

Emission Standards and Related Requirements:

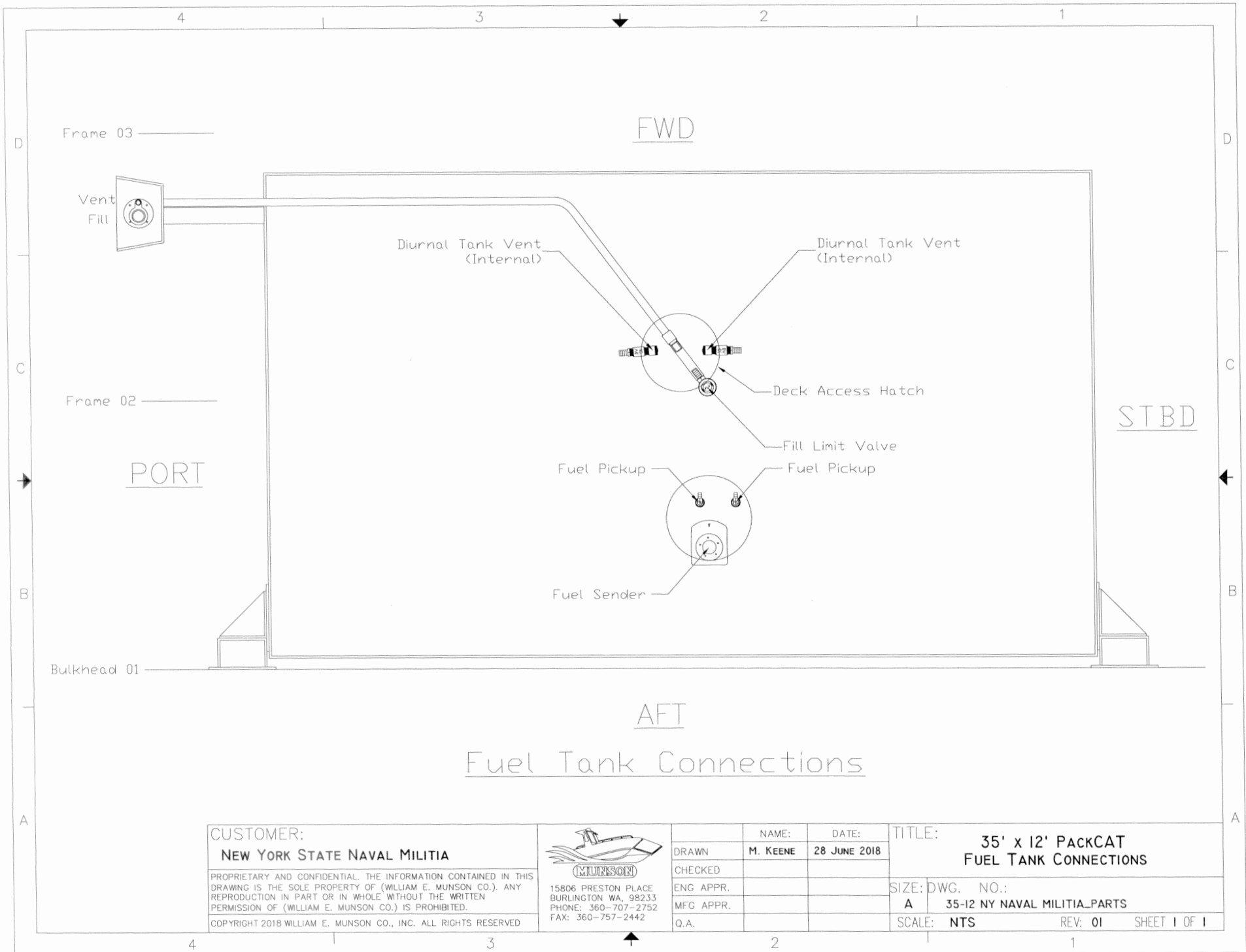
In compliance with ABYC and CFR statues designed to protect and preserve the environment, Munson fuel systems are designed in accordance with the following emission standards and requirements:

- (a) Title 40CFR Section 1060.102 permeation emission control requirements for fuel lines
- (b) Title 40CFR Section 1060.103 permeation emission control requirements for fuel tanks
- (c) Title 40CFR Section 1060.105 diurnal emission control requirements for fuel tanks.
- (d) General requirements for components and equipment subject to the emission standards in Title 40CFR 1060.102 through 1060.105
- (e) ABYC 24.18.4.1 Fuel System Testing – Emission components.

Diurnal Emissions Components:

Munson fuel systems are designed using Perko components. All Perko components are EPA certified (where applicable) and carry a manufacturer's warranty.

<i>Component</i>	<i>Perko Part #</i>	<i>Quantity</i>
Fill Limit Valve (1-1/8")	0586T0118	1
Inlet Check Valve	0635000	1
Fuel Fill	0663G00BLK	1
Carbon Canister (2.0L)	0486020055	1
Air – Fuel Separator	0488001	1
P-Trap Vent Valve	0630004BLK	1



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MFG APPR.		
Q.A.		

TITLE:		35' x 12' PackCAT FUEL TANK CONNECTIONS	
SIZE:	DWG. NO.:		
A	35-12 NY NAVAL MILITIA_PARTS		
SCALE:	NTS	REV: 01	SHEET 1 OF 1



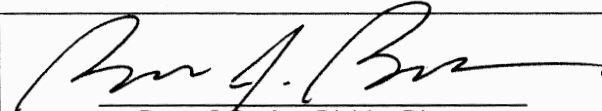
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2018 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Delphi Corporation
(U.S. Manufacturer or Importer)
Certificate Number: JDPHPMDRNN10-002

Effective Date:
12/12/2017

Expiration Date:
12/31/2018


Byron J. Bunker, Division Director
Compliance Division

Issue Date:
12/12/2017

Revision Date:
N/A

Manufacturer: Delphi Corporation
Evaporative Family: JDPHPMDRNN10
Category: EVAP_FAMILY
Useful Life: 10 Years
Applicable Regulation: Part 1060
Applicable Emission Standard: 0.16 (g/gal/day)
Design Based Certification: N

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547), 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060 and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued for the diurnal systems, more fully described in the documentation required by 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060 and produced in the stated model year.

This certificate of conformity covers only the diurnal systems which conform in all material respects to the design specifications that applied to those components described in the documentation required by 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060 . This certificate of conformity does not cover diurnal systems imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR Part 90.126, 40 CFR Part 90.506, or 40 CFR Part 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060.

This certificate does not cover diurnal systems sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

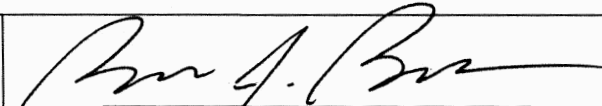


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2017 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Perko, Incorporated
(U.S. Manufacturer or Importer)
Certificate Number: HPERPMDRN640-001

Effective Date:
11/28/2016
Expiration Date:
12/31/2017


Byron J. Bunker, Division Director
Compliance Division

Issue Date:
11/28/2016
Revision Date:
N/A

Manufacturer: Perko, Incorporated
Evaporative Family: HPERPMDRN640
Category: EVAP_FAMILY
Useful Life: 10 Years
Applicable Regulation: Part 1060
Applicable Emission Standard:
Design Based Certification: Y

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547), 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060 and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued for the diurnal systems, more fully described in the documentation required by 40 CFR Part 90, 40 CFR Part 1054, 40 CFR Part 1045 or 40 CFR Part 1060 and produced in the stated model year.

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This certificate does not cover diurnal systems sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

PERKO®

Certificate of Compliance

Name of Product: 0630
Type of Product: P-Trap
Manufacturer: PERKO, Inc.
16490 N.W. 13th Avenue
Miami, Florida 33169-5707
U.S.A.

These products are for use on fuel tanks to comply with the EPA standards and meet the requirements of U.S.C.G. Safety Standards (July 31, 2011) for 40 CFR Parts 9, 60, 80 et al. (Control of Diurnal Emissions From Nonroad Spark-Ignition Engines and Equipment). :

***Tested in accordance with ABYC Safety Standards
for Gasoline Fuel Systems, H-24.***

P-trap - H-24 Watertight-weathertight - Imanna - 10/28/10



(Signatory)

10/28/10

(Original Issue Date Model Year 2011)
Subject to Subsequent Revisions



INSTALLATION NOTES

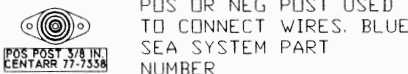
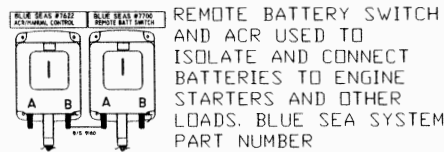
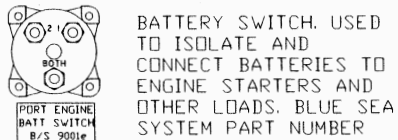
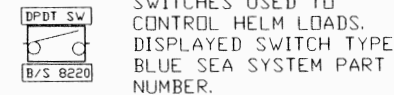
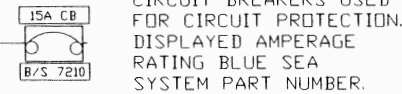
LIST OF PAGES	
SHEET	TITLE
1	INSTALLATION NOTES
2	BATTERY SWITCHPLATE
3	HELM BREAKER PANEL
4	HELM FUSE PANEL
5	WIPER FUSE PANEL
6	SWITCH LAYOUT
7	SWITCH DETAIL
8	BILGE PUMPS 1+4
9	BILGE PUMPS 2+3
10	WEBASTO
11	TRIM TABS
12	120VAC SYSTEM
13	BATTERY CHARGER
14	MERCURY OPTIMAX RIGGING
15	ELECTRONICS FUSE PANEL
16	ELECTRONICS
17	ACRs
18	XXX
19	XXX
20	XXX
21	XXX
22	XXX
23	XXX
24	XXX
25	XXX

GENERAL NOTES:

1. ALL WIRE IS VERTEX BRAND OR EQUIVALENT, UL LISTED MTW OR THW, BC-5W2 105 C-600/1000V TINNED COPPER, MARINE GRADE

2. ALL ELECTRICAL CIRCUIT DESIGN AND INSTALLATION WILL ADHERE TO UNITED STATES COAST GUARD (USCG) REGULATIONS AND AMERICAN BOAT AND YACHT COUNCIL (ABYC) RECOMMENDATIONS WHERE APPLICABLE

SYMBOLS USED IN DIAGRAMS:



NOTES FOR LOADS AND WIRE SIZES:

1. HELM DC PANEL - 80A LOAD
3% VOLTAGE DROP
35 FT WIRE RUN = #0 AWG CABLE

HELM PANEL WIRE SIZE				
ROUND TRIP (FT)	15-25	25-30	30-45	45-57
WIRE GAUGE	#2	#1	#0	#00

2. BILGE PUMPS 1 & 4 - 15A LOAD
3% VOLTAGE DROP
35 FT WIRE RUN = #8 AWG CABLE

BILGE PUMP WIRE SIZE			
ROUND TRIP (FT)	<39	39-60	60-96
WIRE GAUGE	#8	#6	#4

3. BILGE PUMPS 2 & 3 - 15A LOAD
3% VOLTAGE DROP
35 FT WIRE RUN = #8 AWG CABLE

BILGE PUMP WIRE SIZE			
ROUND TRIP (FT)	<39	39-60	60-96
WIRE GAUGE	#8	#6	#4

4. #1 BILGE PUMP - 7.5A LOAD
3% VOLTAGE DROP
39 FT WIRE RUN = #10 AWG CABLE

BILGE PUMP WIRE SIZE				
ROUND TRIP (FT)	<32	32-51	51-81	81-130
WIRE GAUGE	#12	#10	#8	#6

5. #2 BILGE PUMP - 7.5A LOAD
3% VOLTAGE DROP
32 FT WIRE RUN = #10 AWG CABLE

BILGE PUMP WIRE SIZE				
ROUND TRIP (FT)	<32	32-51	51-81	81-130
WIRE GAUGE	#12	#10	#8	#6

6. #3 BILGE PUMP - 7.5A LOAD
3% VOLTAGE DROP
65 FT WIRE RUN = #8 AWG CABLE

BILGE PUMP WIRE SIZE				
ROUND TRIP (FT)	<32	32-51	51-81	81-130
WIRE GAUGE	#12	#10	#8	#6

7. #4 BILGE PUMP - 7.5A LOAD
3% VOLTAGE DROP
58 FT WIRE RUN = #8 AWG CABLE

BILGE PUMP WIRE SIZE				
ROUND TRIP (FT)	<32	32-51	51-81	81-130
WIRE GAUGE	#12	#10	#8	#6

8. ENG STARTER REQUIREMENTS
MANUFACTURE RECOMMENDATIONS
20 FT WIRE RUN = #2 AWG CABLE

200-250 OPTIMAX ENG STRTR WIRE SIZE			
ROUND TRIP (FT)	<21	22-24	
WIRE GAUGE	#2	#0	

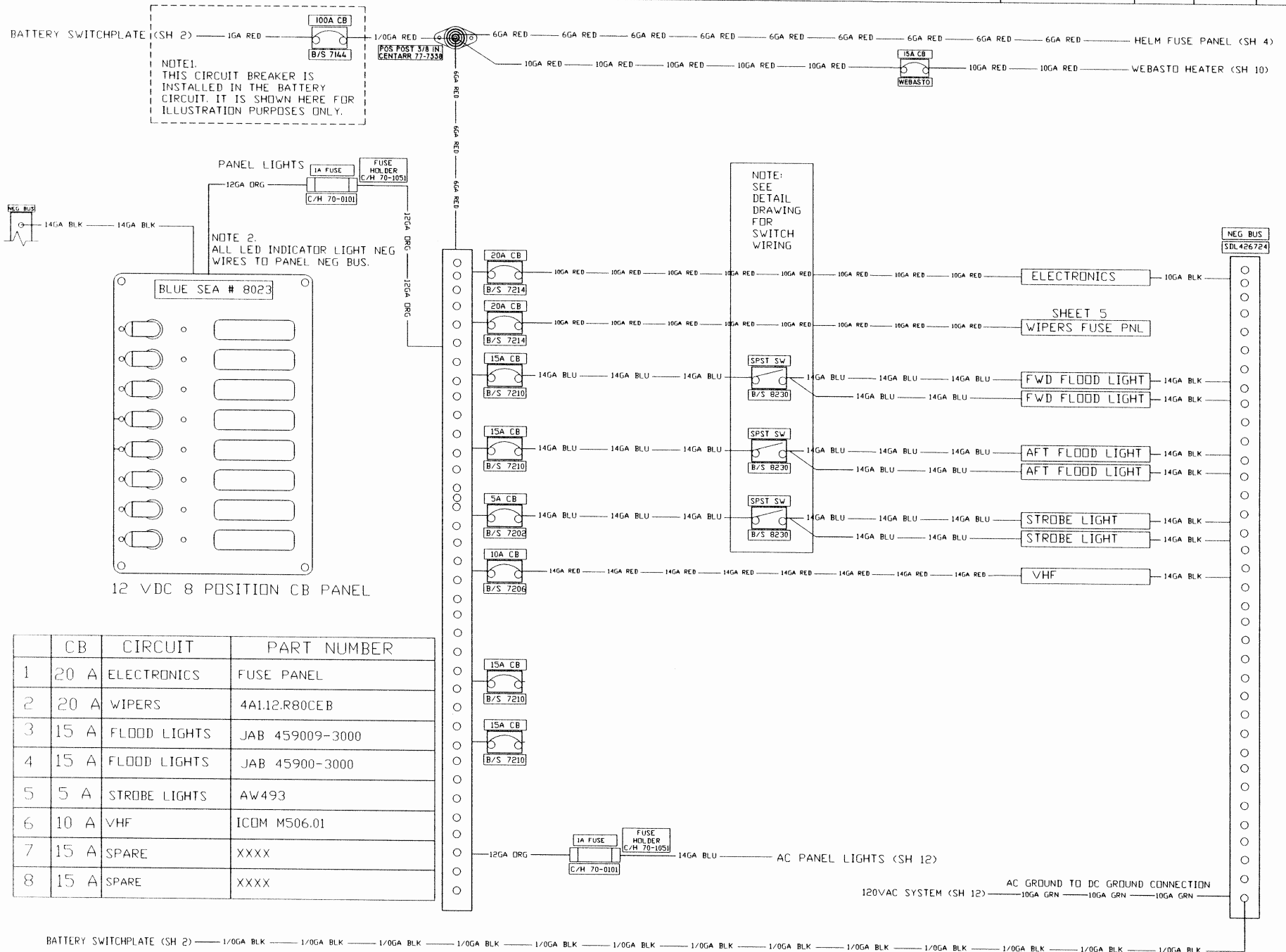
9. BATTERY CHARGER - 20A LOAD
3% VOLTAGE DROP
15 FT WIRE RUN = #6 AWG CABLE

BATTERY CHARGER WIRE SIZE				
ONE WAY TRIP (FT)	<15	15-20	20-40	40-60
WIRE GAUGE	#8	#6	#4	#2

BATTERY RESERVE CAPACITY
2 BATTERIES X 160 MIN = 320 MIN
320 MIN X 25 AMPS = 8000 AMP MINUTES
8000 MIN/55A LOAD = 145 MIN
145 MIN/60 = 2.4 HOURS OF BAT RESERVE

CHARGING SOURCE RATINGS		
SOURCE	AMPS	WATTS
STBD ALTERNATOR	60	720
PORT ALTERNATOR	60	720

HELM BREAKER PANEL



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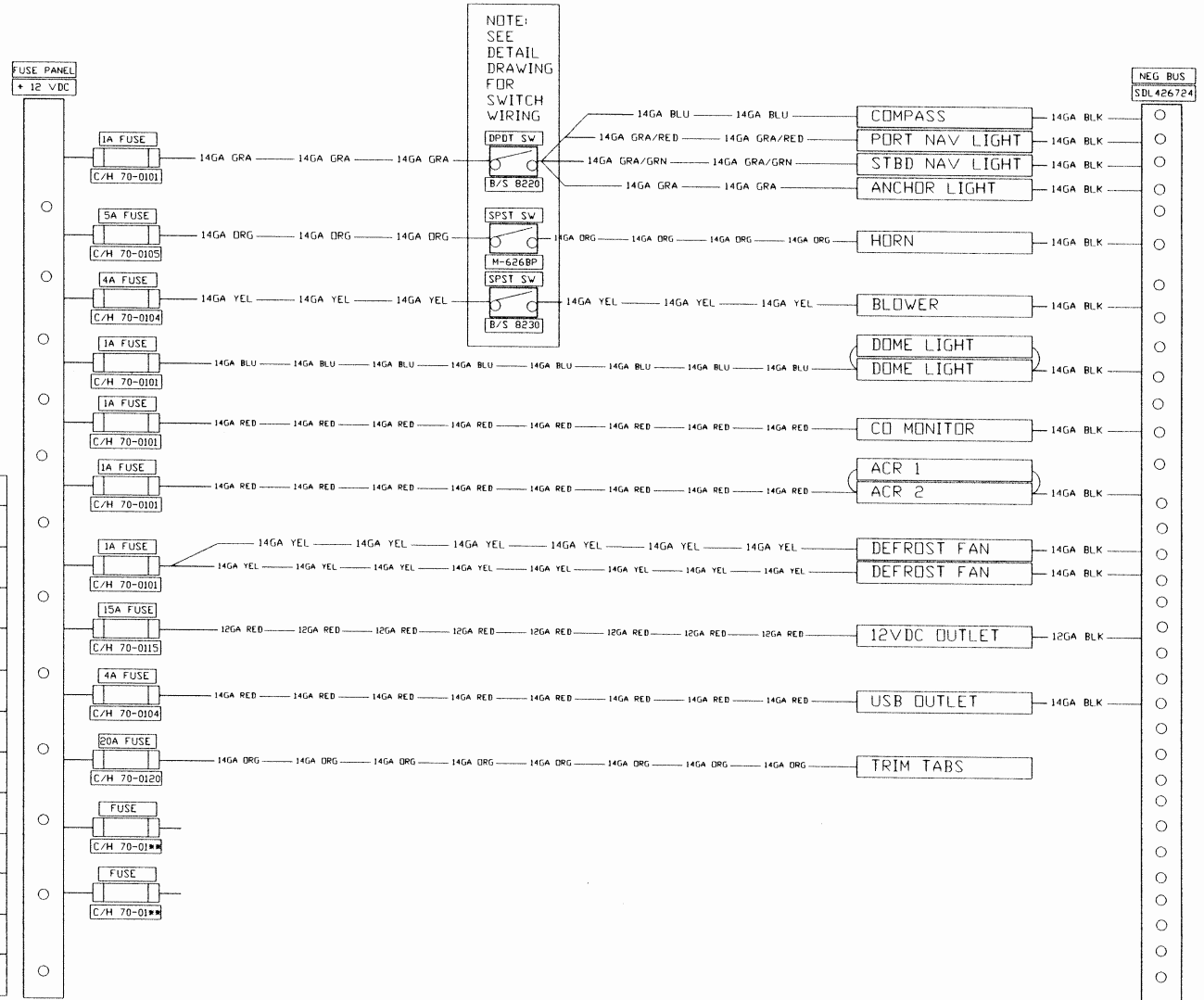
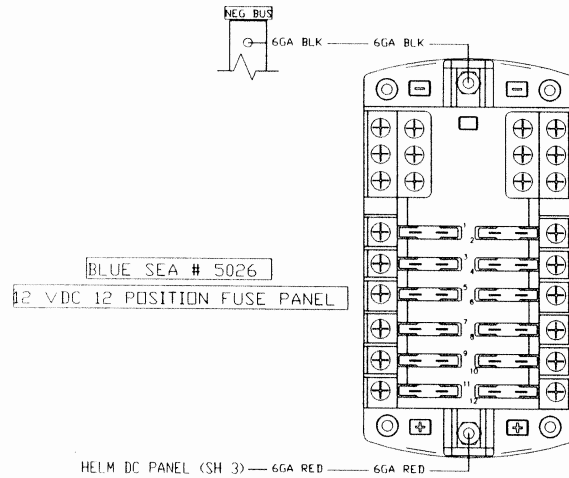
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HELM FUSE PANEL



	FUSE	CIRCUIT	PART NUMBER
1	1 A	NAVIGATION LTS	HLA 980910001 AQS 33302-7 AQS 33302-7 RIT-HD744
2	5 A	HORN	DRNG 10051
3	4 A	BLOWER	RUL 140
4	1 A	DOME LIGHT	SDL 400353-1
5	1 A	CD MONITOR	XIN CMD-4MR
6	1 A	ACRs	B/S 7622
7	1 A	DEFROST FAN	CAF 748CABBX
8	15 A	12VDC OUTLET	MCD 12VRC
9	4 A	USB OUTLET	B/S 1016
10	20 A	TRIM TABS	BEN V351-12X9EX
11	XXX	XXXX	XXXX
12	XXX	XXXX	XXXX

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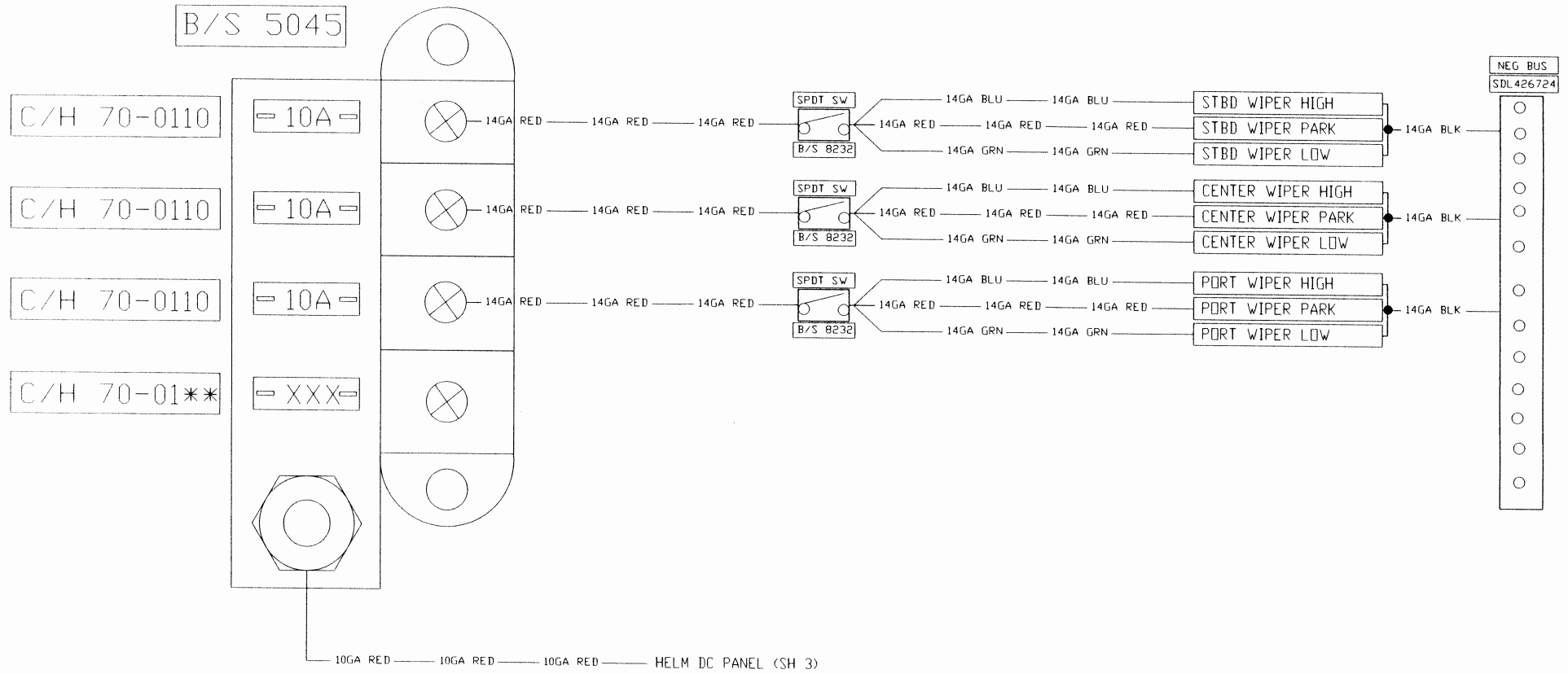
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WIPER FUSE PANEL

ELECTRICAL DIAGRAMS

SHEET 5 OF 17



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SWITCH LAYOUT

ELECTRICAL DIAGRAMS

SHEET 6 OF 17

FRONT VIEW

HORN

SPST
M-626BP

NAV/ANCHOR

BS8220
DPDT

PORT WIPER

BS8232
SPDT

STBD WIPER

BS8232
SPDT

CENTER WIPER

BS8232
SPDT

STROBE LIGHTS

BS8230
SPST

FWD FLOOD LTS

BS8230
SPST

AFT FLOOD LTS

BS8230
SPST

BLOWER

BS8230
SPST

BS8278
BLANK

ACR/PARALLEL
PORT STBD

SPDT
BS2146

SPDT
BS2146

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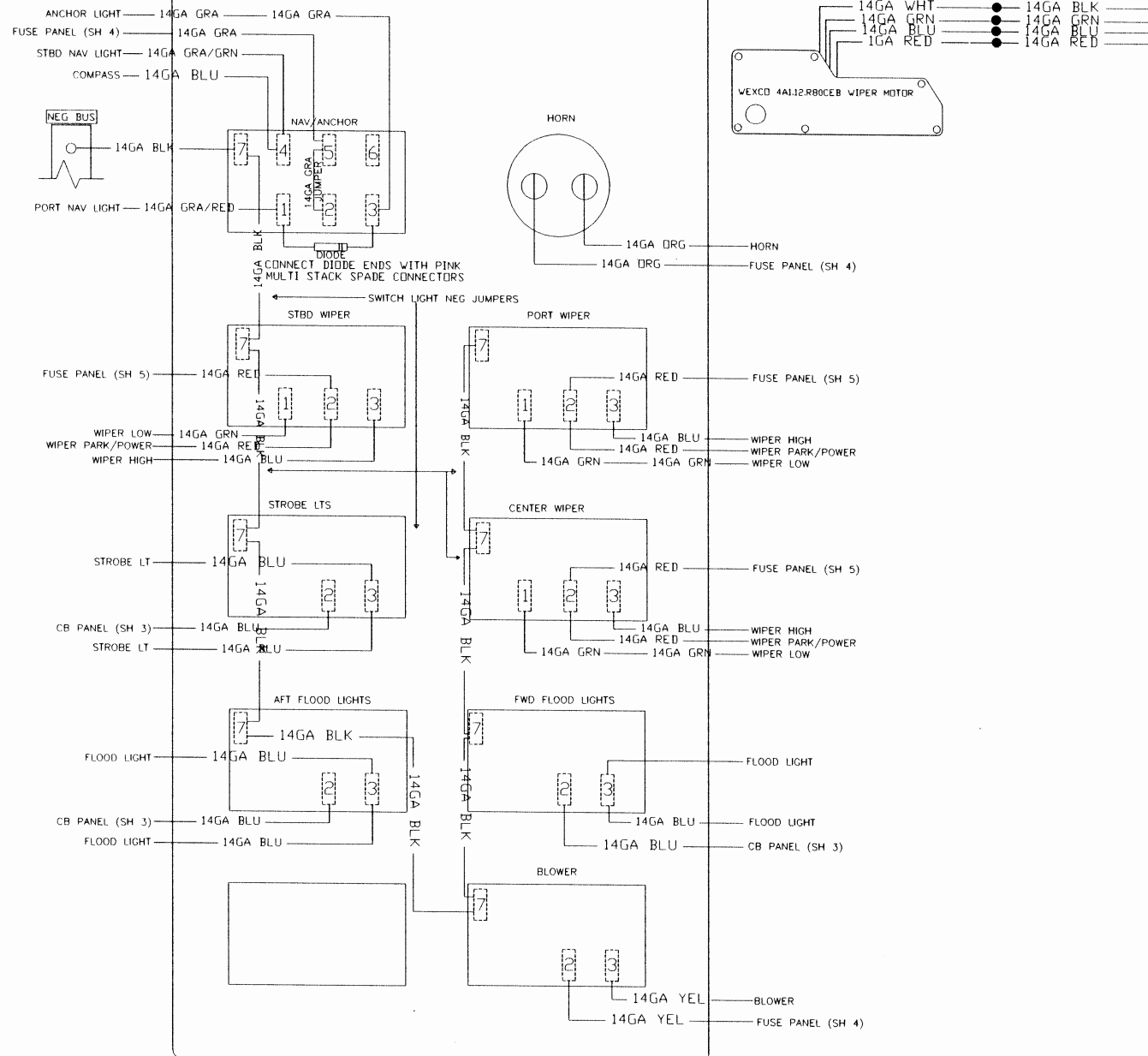
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SWITCH DETAIL

ELECTRICAL DIAGRAMS

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REAR VIEW



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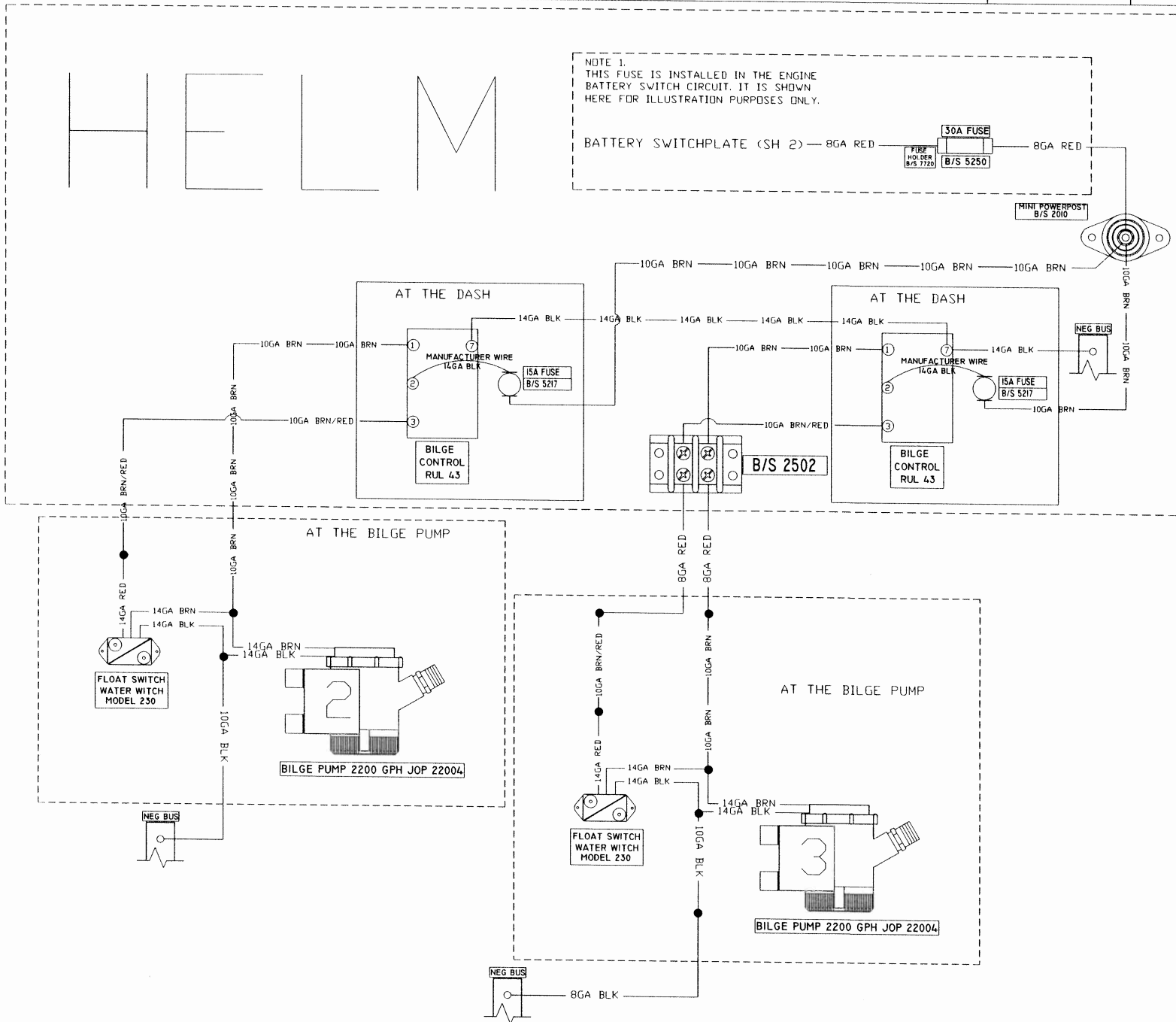
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BILGE PUMPS 2+3

HELM

NOTE 1:
THIS FUSE IS INSTALLED IN THE ENGINE BATTERY SWITCH CIRCUIT. IT IS SHOWN HERE FOR ILLUSTRATION PURPOSES ONLY.



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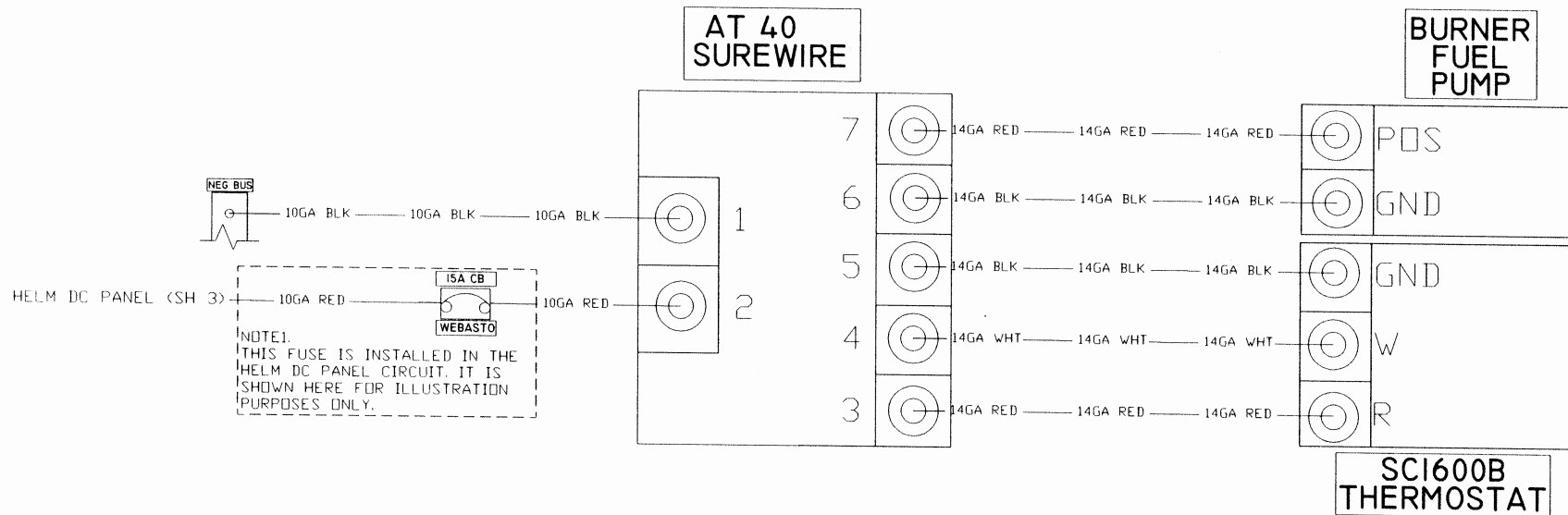
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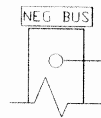
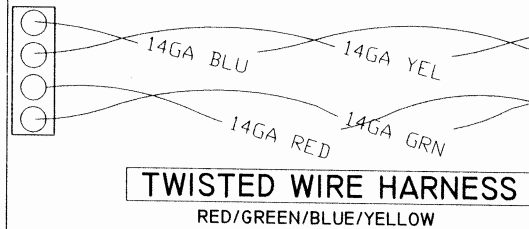
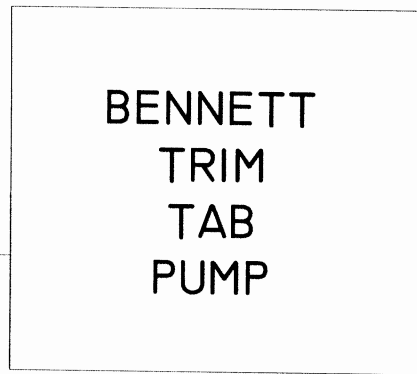
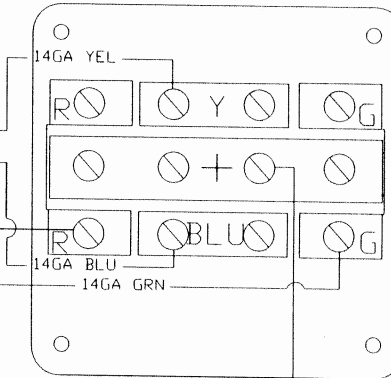
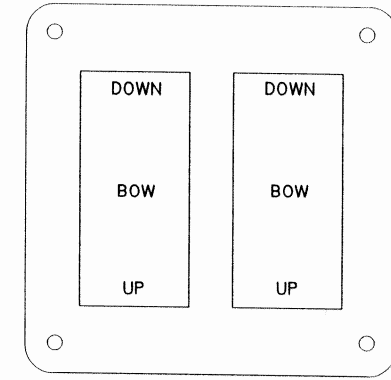
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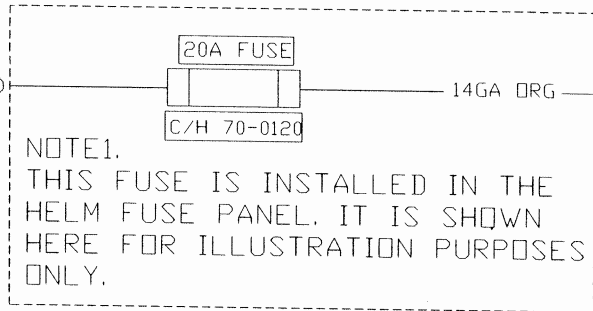


BENNETT TRIM TABS

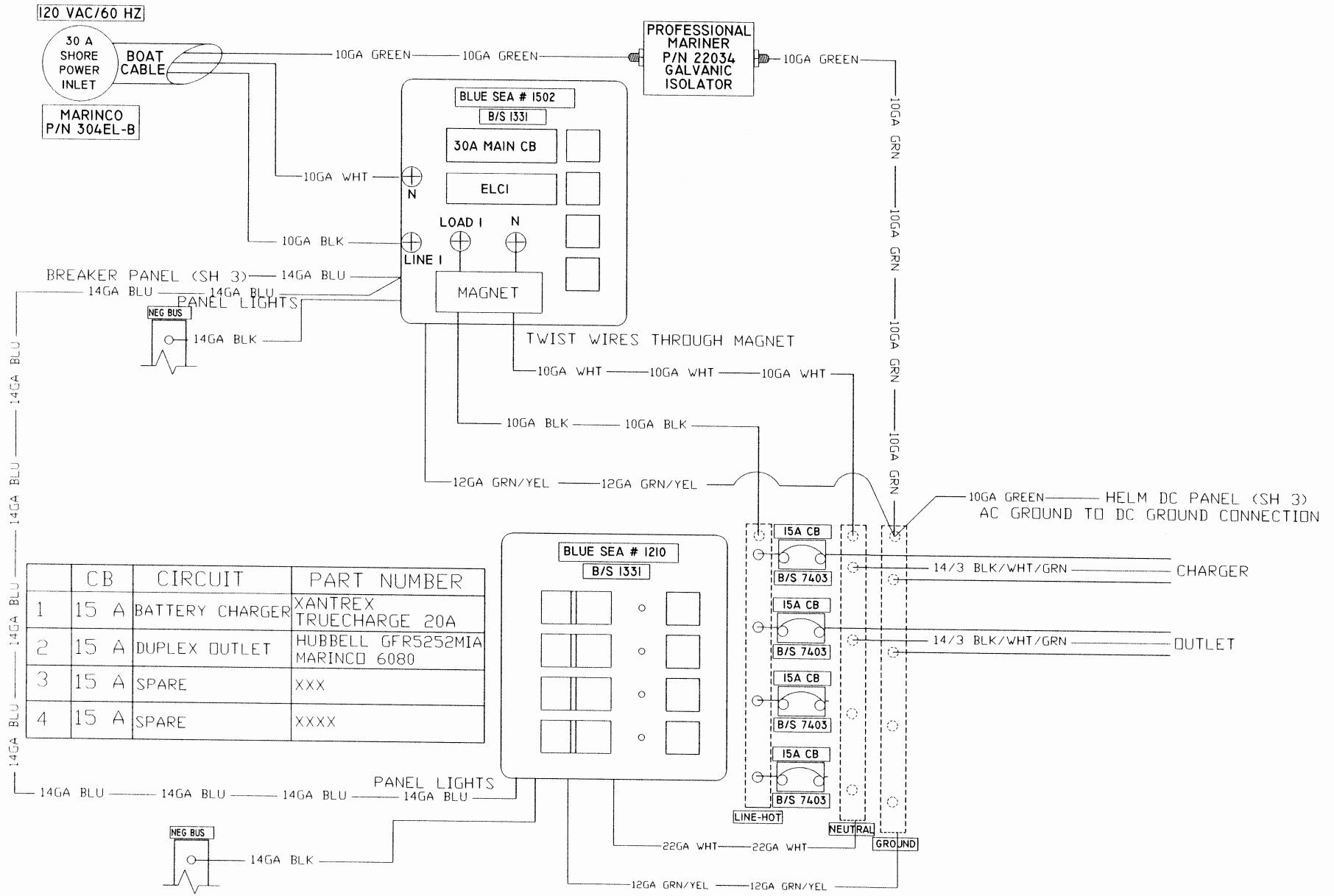


14GA BLK

HELM FUSE PANEL (SH 4)



120VAC SYSTEM



	CB	CIRCUIT	PART NUMBER
1	15 A	BATTERY CHARGER	XANTREX TRUECHARGE 20A
2	15 A	DUPLEX OUTLET	HUBBELL GFR5252MIA MARINCO 6080
3	15 A	SPARE	XXX
4	15 A	SPARE	XXXX

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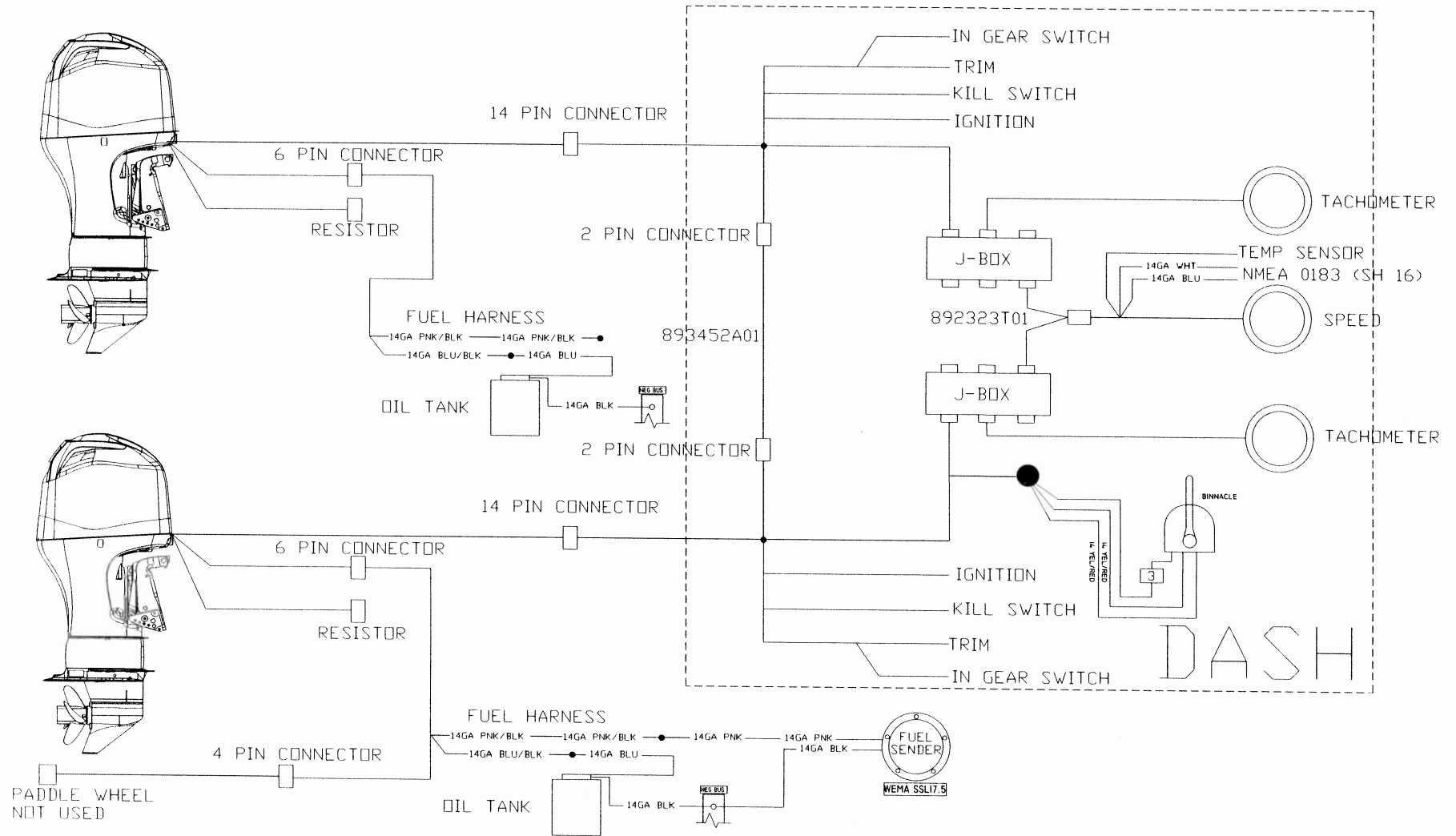
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MERCURY OPTIMAX RIGGING

ELECTRICAL DIAGRAMS

SHEET 14 OF 17



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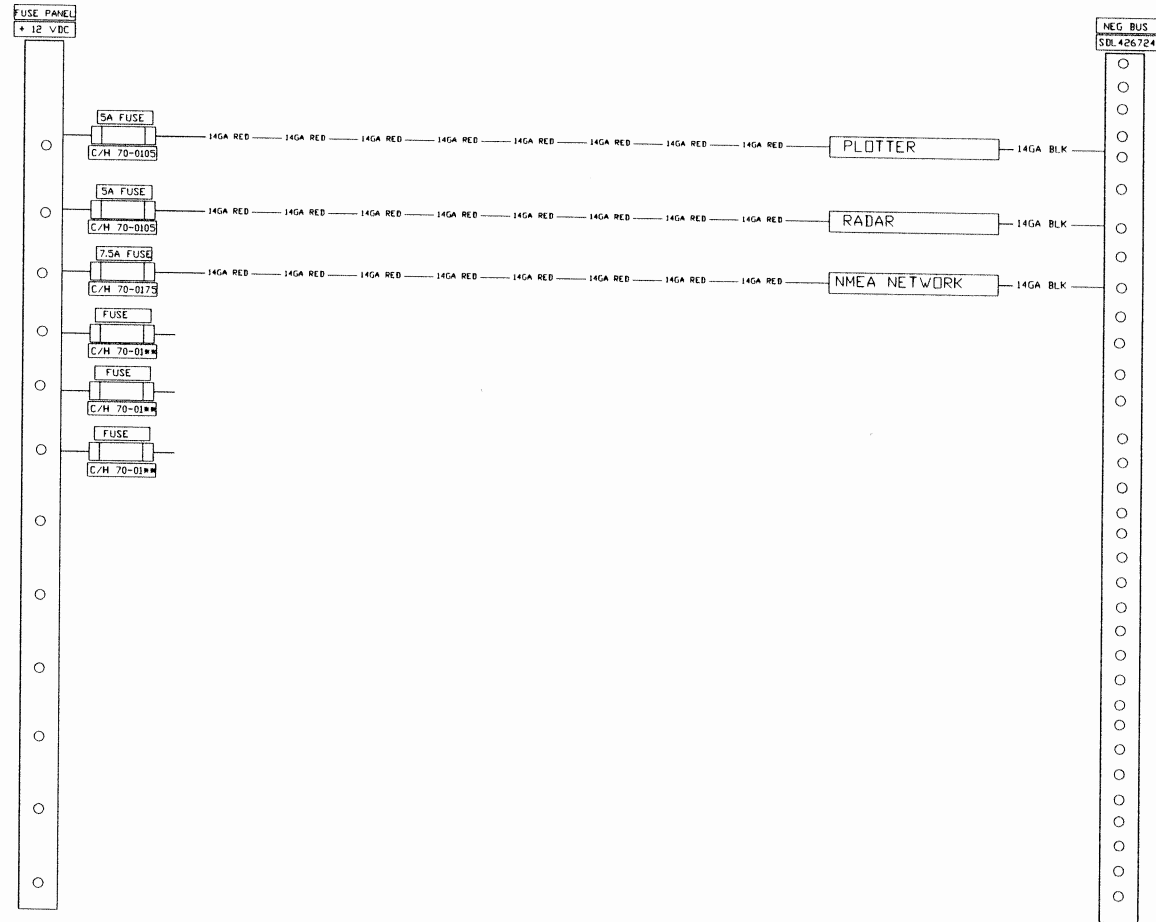
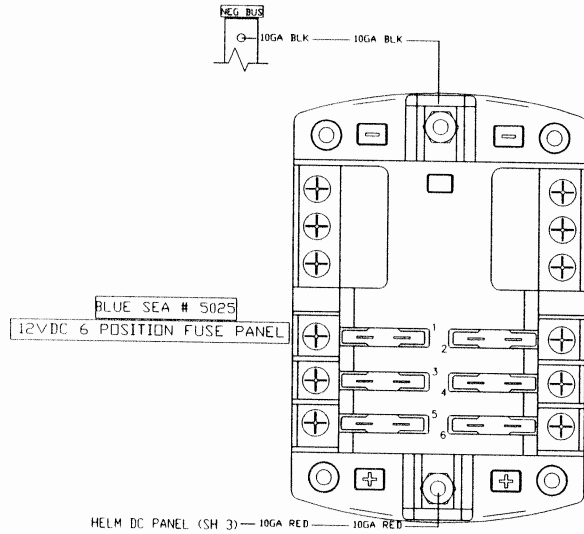
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ELECTRONICS FUSE PANEL

ELECTRICAL DIAGRAMS

SHEET 15 OF 17



FUSE	CIRCUIT	PART NUMBER
1	5 A PLOTTER	FURUND T2TL12F
2	5 A RADAR	FURUND DRS4DL
3	7.5A NMEA NETWORK	GA-0101107900
4	XXX XXXX	XXXX
5	XXX XXXX	XXXX
6	XXX XXXX	XXXX

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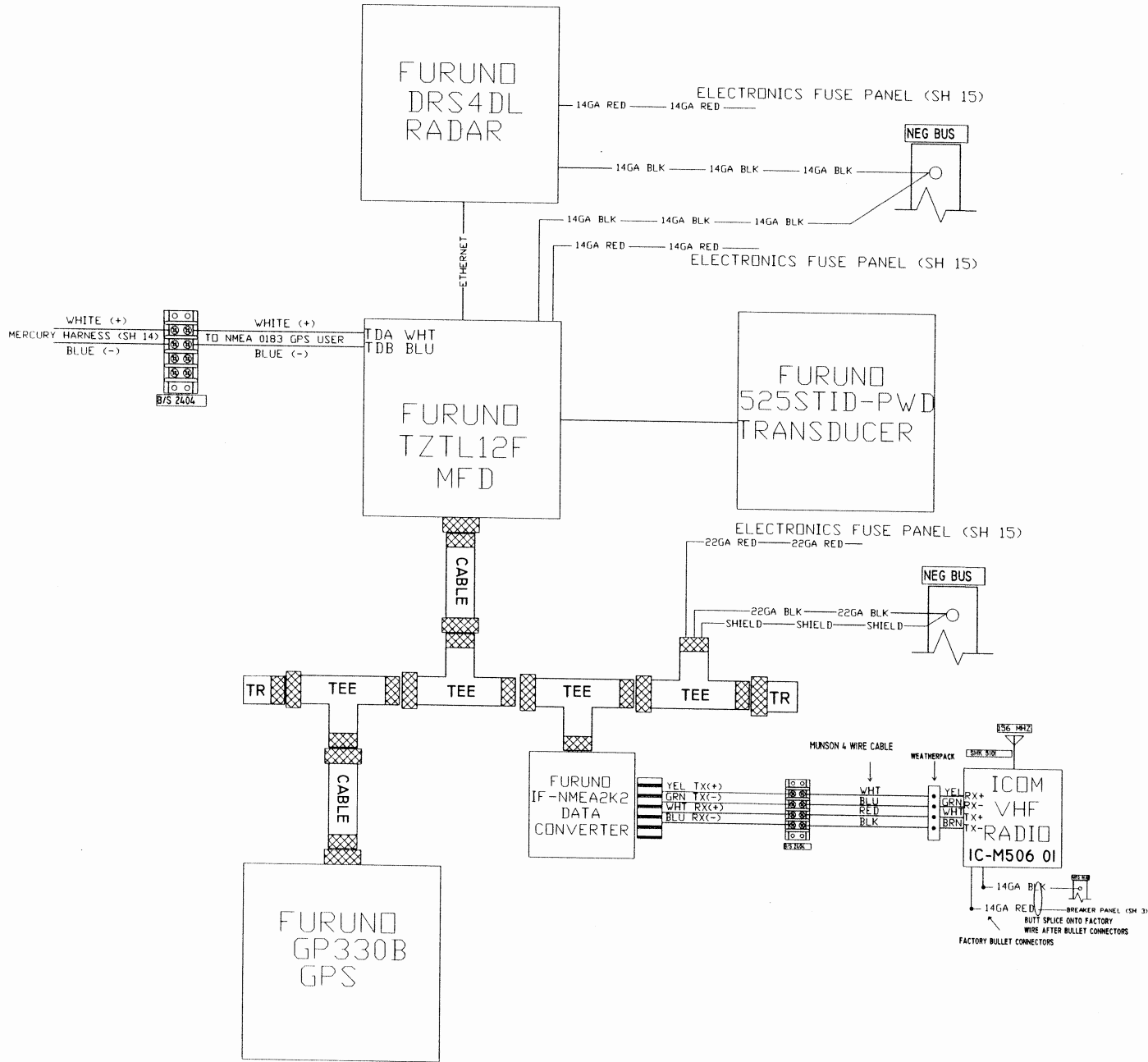
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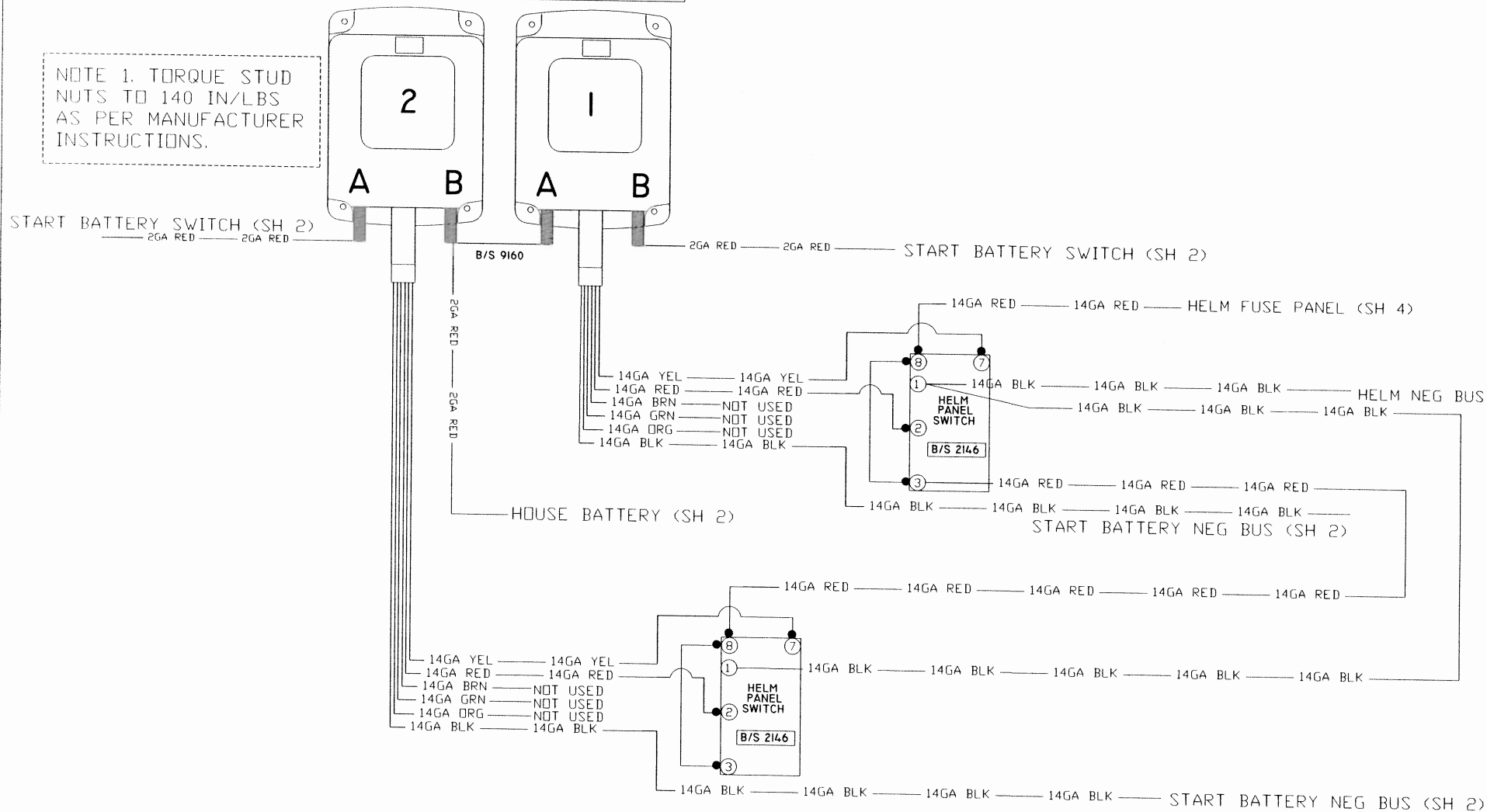
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BLUE SEAS #7622 ACR w/MANUAL CONTROL BLUE SEAS #7622 ACR w/MANUAL CONTROL

NOTE 1. TORQUE STUD NUTS TO 140 IN/LBS AS PER MANUFACTURER INSTRUCTIONS.



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