TECHNICAL TIPS

MOTOR
HARLEY-DAVIDSON
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#35

TECH TIPS #35

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1994 Model Year Technical Update

1994 1/2 Road King

The tank mounted electric speedometer provides accuracy and eliminates the speedometer cable from being seen beneath the dash and behind the front wheel. The die cast chrome dash houses a full complement of icons and a round key ignition switch.

Because the speedometer is electric, there are no cables to lube or break. A Hall-effect sending unit is located in the transmission, and creates a signal off of 4th gear mainshaft inside the transmission. The odometer has an LCD style display and requires the ignition switch to be on in order to read the mileage. The odometer has three memory locations internally and is capable of retaining the mileage intact for 50 years! The reset button allows the rider to toggle between the trip mileage and the vehicle mileage. Holding the button for a couple of seconds will reset the trip mileage back to zero.

The new parts include the speedometer and it's mounting hardware, the sending unit, the transmission case, and a speedometer connector. Retrofitting is not recommended because of the cost and number of parts required.

The new Road King's windshield has a quick detach mounting system to make changing from cruising to touring a quick task. Is the windshield retrofittable? No. The windshield assembly is designed to fit tightly around the new nacelle shape, which is narrower than the `93 FLHS nacelle. **All Harley-Davidson International Models,** including the FLHR will be shipped with headlamps installed for 1994 and all HDI lighting is ECE 53 approved.

The new chrome head lamp nacelle provides the traditional look of the FLH's of the past. Included is a new fork lock and switches which are mounted for easy access. International vehicles will still have the neck mounted fork lock. The turn signal module and handlebar wiring can also be easily serviced through the headlamp opening. The new nacelle is not easily retrofittable. The Road King does not have anti-dive forks, but will still have air over oil forks. The Schraeder valve will be located on the left side, accessible when the forks are turned to the right. The absence of the instrument cluster and anti-dive make for a very tight fitting nacelle, unique only to the Road King. The nacelle will fit other FL models with modifications, but then a place must be found for the speedometer, wiring harness, and a new fuel tank to house the speedo.

The Road King will also feature the new Deutsch water resistant wiring connectors. The new and easily accessible circuit breaker board is now located behind the left side panel.

1994 1/2 Dyna Convertible

The Dyna Convertible will have an all new frame with a 28 degree head angle. The new sport chassis has a much steeper head angle compared to the custom 32 degree chassis on the Dyna low rider. The new chassis provides for quick steering and a agile feel.

The Dyna Convertible will also have a new suspension system with a dual rate front fork spring and improved dampening characteristics to match this change. The differences will also include a 5/8" longer rear shock with a heavier spring and new dampening characteristics for those times the windshield and bags are off for sport riding or to accommodate cross-country hauls. The suspension components are retrofittable to other Dynas with few modifications. The new Convertible will stand taller because of the steeper head angle and longer rear shocks. This will help improve comfort for two-up rides The seat can retrofit to all Dynas, with the exception of the Wide Glide, since the mounting points have not changed.

New 1340 Starter Changes

There is a new primary ratio for 1994. The change incorporates a 25 tooth engine sprocket and a 36 tooth clutch sprocket which is different than the 24/37 combination used in years prior. All 1340 models will have this change to improve cold weather starting and eliminate starter "grunt." The clutch sprocket also has a different ring gear attached. The starting upgrade is accomplished through a primary gear ratio change **and** a starter drive change. This new change will actually turn the engine over slower, but the engine crankshaft will see approximately 50% more starting torque. The new starter jack shaft requires a smaller through bolt to secure it to the starter motor. The coupling must now be installed on the starter first, then inserted into the inner primary from the starter side of vehicle. Also, the starter jack shaft seal is smaller and will not let the coupling pass through the clutch side. The starter has a new part number because of the smaller threaded hole in the output shaft needed to accommodate the smaller jack shaft through bolt. Due to the numerous parts and expense involved, this is not a suggested retrofit.

New Parts for These Changes Include:

- Engine sprocket
- Clutch sprocket
- Inner primary
- Outer primary
- Jack shaft assembly and bolt
- Starter motor assembly
- Jack shaft seal
- Primary cover gasket

There will be **no** change to the following torque specs: Engine sprocket nut, clutch hub nut, and starter jack shaft bolt. The primary chain will not change.

The above changes make the new primary ratio 1.440:1. This means that the transmission will spin faster with less torque going through the gears. NOTE: the old ratio was 1.542:1. The vehicle's overall gear ratio will change also. The new ratio for 1994 is 3.150 on Domestic 1340 (32/70) This gearing change means that the Domestic FLT and FXR's will be geared a little taller in 1994 (less rpm's at 60 mph, or a smaller overall ratio number). However, the Domestic Softail will be geared 7% lower (more rpm's at 60 mph, or a larger overall ratio number) than 1993.

New Transmission Gears for 1994

Domestic vehicles will have new more durable forged transmission gears, and these gears will be marked with a groove around their circumference for identification. All HDI vehicles (except Japanese 1340's and XL's, and Swiss XL's) will have High Contact Ratio transmission gears. **These gears should not be intermixed with those from a domestic transmission marked with the abovementioned groove.**

1340 Transmission Bearing Door

A new 1340 transmission side door bearing housing will be used for 1994. The new housing will be identified with a center drill mark between the two bearings. The center drill mark will alert the technician that this housing requires tapered snap rings. The new tapered snap rings will preload the outer bearing race, preventing any variation in clutch adjustment during production. Tapered snap rings are directional and not retrofittable. Use the tapered snap rings on 94 models and the older style snap rings on earlier models. Do not mix! The new door retrofits as an assembly back to `87.

Fuel Cap Change

For all models except the FLT, the fuel cap has a new 3/4 turn release feature. The fuel cap will rotate freely without engagement for 3/4 of a turn before a solid connection is felt and fuel cap removal begins.

Deutsch Connector

Sealed connectors will be used only on FLT and XL models for 1994. The main benefit obtained from using sealed connectors is the ability to protect the connections from the environment. An additional benefit is that these connectors will not allow mis-assembly or wire back out. This type of connector can also be used in conjunction with T-stud clips and their respective frame mounted T-studs to insure the connector is positively located. Should circuit testing ever be required, a probe may be inserted into the back of the new connector. The probe should have a radiused end and a small diameter. Using a sharp or too thick a probe will degrade the connector's sealing capabilities.

Muffler Clamps

New stainless steel muffler clamps have eliminated the need for silicone or graphite tape to ensure sealing on 1994 XL and Dyna models. Their improved clamping characteristics provide even sealing over the entire muffler circumference. Rivets are no longer used to retain the mufflers on Dyna models. The clamps are, however, a **one time usage** because the clamp load diminishes after use. Once removed, they should be replaced. Because of the change in the shape of the new muffler flange cut out, retrofitting should be done using the muffler and clamp as a set. The new clamp could be used on earlier mufflers, but sealant would still be required. The old clamp **should not** be used with the new style mufflers. The old muffler and clamps will still be used for all other models in 1994.

Ignition Switch

The new ignition switches on XL, Dyna, and FXR models have a accessory position that allows the rider to use the 4-way flashers with the key removed. On all these models, except the Wide-Glide, the accessory position is located between the "OFF" and "IGNITION" positions, and it is possible to stop the engine and remove the key in the accessory position. This would leave the gauge lights on, and the turn signals and brake lights active if used. On International models, the position lamps are on. ***It is possible to drain the battery if left like this! Please educate your customers!*** This same switch has two flats on the barrel instead of one. The 1994 style will retro-fit back, but the older single flat switch will not fit 1994 models. The FXR frame and the XL switch cover are new for 1994 because of this.

XL Rubber Isolated Rear Fender

The XL rear fender is now rubber isolated at all mounting points. This design reduces stress and vibration alleviating noise and fender fatigue. The fender alone is not retrofitable. It works in conjunction with the new rear frame section made of more durable forgings.

XL Oil Tank Redesign

The oil tank has been redesigned to reduce the congestion with other components under the seat. **Feed**, **return**, and **vent** hoses all attach to fittings at the bottom of the tank. Tubes then route oil internally inside the tank. The oil tank and battery tray mounting brackets have been strengthened to make them more durable. A retrofit kit will permit use of the 1994 tank on 1982-1993 Sportsters.

1-Piece Battery Cable

The positive and negative battery cables on Sportsters are now a one piece assembly. A molded rubber guide joins the two cables and ensures consistent routing without interference to surrounding components.

Sportster Electrical Bracket

A new electrical mount bracket serves as "home" for a number of components. The removable bracket provides for easy servicing of these components. They include the:

- self-cancelling turn signal module
- circuit breakers (15Amp and 10Amp)
- ignition module connector
- main circuit breaker (50Amp breaker is common with FLT models)
- starter relay

Primary Cover/Clutch Release Mechanism

A new primary cover for 1994 XL's incorporates cosmetic appeal with improved serviceability! 94 Sportster models have had their primary/transmission fluid level reduced from 40 oz. to 32 oz.

Testing and experience has proven that the reduced fluid level improves shift quality and enhances neutral finding ability. ***All*** `91-`94 five speed Sportsters can adopt this new fluid level without any component changes.

The new primary cover **can** be fitted to earlier models by replacing the primary cover, derby cover and screws, o-ring, release mechanism, and adjusting screw. The new primary cover also has a "Derby" style access cover for easy clutch adjustment and fluid level checks. The oil level is now checked he same as 1340 models, filling to a level even with the bottom of the clutch diaphragm spring.

For improved serviceability, the clutch release mechanism and cable can be replaced without cover removal.

FX Ignition Switch

Softail ignition switches are wired different for 1994 to meet international standards. The switch is now lockable in three out of the four positions; the "Accessory", "OFF", and "LIGHTS" positions. The first position to the right of the "OFF" position is a lights position, and for HDI models the front and rear position lamps are on. On Domestic models the lights and accessories are on, but the ignition is not active. ***This means that the starter and the ignition will not work in the first position! This is normal!***

Vacuum Fuel Valve

A new vacuum operated fuel valve will be fitted on all FLT vehicles. This valve will sense engine vacuum off the V.O.E.S. switch. The valve will only allow gasoline to flow when the engine is in operation. The valve handle will still have an "OFF" and "RESERVE" position. This could be a retrofittable part if the vacuum line to the V.O.E.S. were changed. This new valve will effect the way fuel is drained. Pressure or vacuum will need to be applied one of the two fittings on the valve in order to drain the tank. One to two pounds of pressure will open the valve, any more pressure than that will close it. The simplest way to open the valve is by using a Mity-Vac, and applying a vacuum.

Easy Access Relays and Wiring

The starter and brake light relays have been relocated behind the headlight on all FLT models, and a headlight connector has also been added to the FLTCU to aid in servicing. Positively located wires and connectors using frame t-studs reduce the likelihood of pinching and abrasion on the harness (and also reduce the number of ty-raps used).

More FLT Electrical Improvements

The ignition module has been relocated behind the right side cover and fitted with a sealed connector. Screaming Eagle ignition modules will be available with the new style connector for FLT models as well as XL models. These two model families also use a new style circuit breaker that uses spade terminals instead of ring terminals. This change reduces the possibility of broken or loose terminals. The new circuit breaker configuration also allows standard automotive fuses to be substituted if necessary. The new style harnesses have dedicated ground circuits to reduce the number of poor grounds and reduce the number of ground connections to the frame. Tail lamps and turn signal lamps have a redundant ground wire to improve reliability. Replacement lamps will

also have this additional ground wire, which can be attached to a ground point on the motorcycle when retrofitting the lamps on earlier models.

Dedicated Accessory Switch and Plug

Another new feature for 1994 FLT models is the accessory switch located in the inner fairing. A sealed accessory connector under the seat improves the quality of accessory installations and provides a highly reliable connection that feeds the ground, brake, tail and switch wires connected to new accessory kits. Accessory kits will soon include parts with a connector, as well as a circuit breaker to activate the circuit. The pilot light on the new accessory switch will not be active until the circuit breaker is installed.

Replaceable Rear Tuning Switch

The rear tuning switch on Ultra-Classic models has a connector on the circuit board to make it serviceable. It is no longer necessary to replace the pod if the switch assembly needs replacement. Unfortunately, this part is not retrofittable.

Police Air Spring Seat

A new air spring seat for the FLHTP provides a smooth ride and infinite adjustability. This new seat can be retro-fitted back to 1993 models by drilling holes in the frame cross member, and removing and reinstalling the luggage rack to install the reservoir. This seat is not available in kit form, though all the pieces are available separately. The air reservoir for the air spring seat includes a built in gauge.

New Kent-Moore Tools

The 1994 H-D/KMT Essential Tool Package consists of four (4) tools.....: the 1340 pinion bearing outer race remover and installer, electrical crimp tool for Deutsch style connectors, and two electrical crimp tools for Packard style connectors, because Packard connectors are also new to the sealed connector scheme.

HD-39958	1340 Pinion Bearing Outer Race Remover/Installer
HD-39965	Electrical Crimp Tool for Deutsch style connectors
HD-38125-6	Electrical Crimp Tool and...
HD-38125-7	Electrical Crimp Tool for Packard style connectors

1340 Gearcase Cover Gasket

Oil seepage from the Big Twin's gearcase area have been reduced by the addition of a sealant bead onto the cover's gasket. This type of "Printo-seal" gasket went into production beginning in May

of 93 and is now available through P&A. The new part number and crankcase start up number are listed below. The 92 and earlier version of this gasket will soon receive the same improvement.

Crankcase start up number- 1593-127-148
New part number- 25225-93B

Valve Guide Seals

There has been a change in the material used to construct the wiper portion of our valve guide seals. Present seals have a blue colored wiper. The new seals have a dark grey wiper with a brass colored band around the outer diameter. The new material is capable of maintaining a better seal around the valve stem. With the improved seal comes less oil in the combustion chamber and the resultant oil smoke. Production engines will be fitted with the new seals starting early in August 1993.

XL Shifter Adjustment Improvement

To improve the accuracy and consistency of the shifter pawl adjustment procedure, the Sportster transmission's shifter return spring was redesigned to eliminate any backlash present at the shifter shaft crank. The curves designed into the new return spring's "arms" allows the detent portion of the shaft to be "pre-loaded" in place. The resultant improvement in the quality of the pawl adjustment makes for better shifting transmissions. The new spring's part number and implementation date are noted below.

New part number- 34481-91A
Implementation date- 5/12/93

Improved Fuel Gauge Sending Unit Screws

The sealing capabilities of the screws which secure the fuel gauge sending unit to the fuel tank on FLT, FXR, and Dyna models have been enhanced by the use of integral o-rings. The old screws used a patch type sealant. The new screws are now in production.

New Hope for FXR\FXD Shifter Shaft Leaks

Recent testing has proven that the current design is capable of keeping the joint oil tight when all the components are held to their correct tolerances. We believe that controlling the variability in both the diameter and the surface finish of the bore in the inspection cover is a key factor in eliminating this condition. Chrome covers also needed better masking techniques in the bore area to prevent a rough surface on the bore's lead in chamfer. Another key to the solution was to produce a tube that would fit both the o-ring **and** cover accurately, thereby providing consistently good o-ring "crush" on every vehicle. The inspection cover and the tube's production processes were revamped to accomplish these goals. The part numbers for the new tube and covers are listed below. The new parts are completely retrofitable and are scheduled for production very soon.

FXR polished inspection cover- 60642-85A
FXR chrome inspection cover- 60667-85A
FXR/FXD shifter tube- 34632-84A
FXD inspection cover- remains the same

Improved Debris Deflector FLT/FXR

Reports of FLT and FXR rear drive belts contacting the lower debris deflector near it's forward edge motivated a change in the deflectors design. The angle and height of the "tunnel" through which the belt travels was modified to create more clearance between the belt and the tunnel's ceiling. The new deflectors appear on 94 models, and will supersede the earlier parts.

Improved FLT Exhaust Clamp

Inconsistent fit of the FLT's exhaust pipe clamp has been the cause of occasional looseness between the muffler and head pipe. This looseness can contribute to rattle or premature exhaust gasket failure. To correct this, the clamp was re-tooled to change the shape of the flanged end. Although the part number has not changed, clamps produced from the new tooling can be identified by the number "2" stamped on the inside of the clamp near the bolt hole.

FLT Waterproof DIN Connector

Water was sometimes able to enter the 7-pin DIN connector between the radio chassis and console pod under an Ultra's seat. This caused the sound system to mute temporarily until the moisture could dry out. To remedy this condition, the DIN plug was redesigned to incorporate an o-ring between the halves. Not only does the new design prevent water contamination, but the connector no longer requires manual resealing each time it is disconnected, making service procedures easier. All Ultras built since mid January of this year are equipped with this type of DIN connector.

Front Belt Pulley Spline Stripping

The pulley depends on the strength of it's splines and the clamp load between the sprocket nut, sprocket, spacer and the large main drive gear bearing to transmit power. If the clamp load is low, and the splines are left to transmit the power by themselves, they could strip. We have adopted an improved sprocket nut torquing procedure in production that is capable of doubling the clamp load across that critical joint. Before installing the nut per the service manual, apply a light film of oil to it's back side. Use caution that the oil does not contaminate the Loctite on the threads. The oil reduces the friction between the back of the nut and the sprocket as the nut is being tightened. Now, more of the torque applied to the nut goes to inducing clamp load across the joint and less is wasted overcoming nut to sprocket face friction. Production and replacement sprocket nuts will soon be supplied with a lubricant preapplied to this area. You should use this procedure on any belt drive 5 speed sprocket assembly you do.

1340 Main Drive Gear Seal

Investigation of the 1340's main drive gear seal, part number 12035, popping out have lead to a better understanding of this situation. There are several conditions that could lead to this or allow it to reoccur on a given vehicle. Here are some of the conditions we've discovered and some recomendations on how to deal with them-

- The chamfer cut into the mouth of some main drive gear's may be wider and/or deeper than on others (see figure 1). The wider chamfers allow for less contact area between the O.D. of the seal and the I.D of the gear after installation. In such cases,

use a thin film of Loctite 601 (green) around the O.D. of the seal and install it to it's maximum allowable depth of .060" below flush.

• A drive belt that is overtight does apply more stress to the seal as well as the bearings and sprockets. Make sure you use the correct belt adjustment technique and specification for the model you are servicing.

• A properly torqued sprocket nut will tend to increase the interference fit between the seal and the gear thereby retaining the seal better. Always use the torquing method described in the previous article for best results.

1340 MAIN DRIVE GEAR

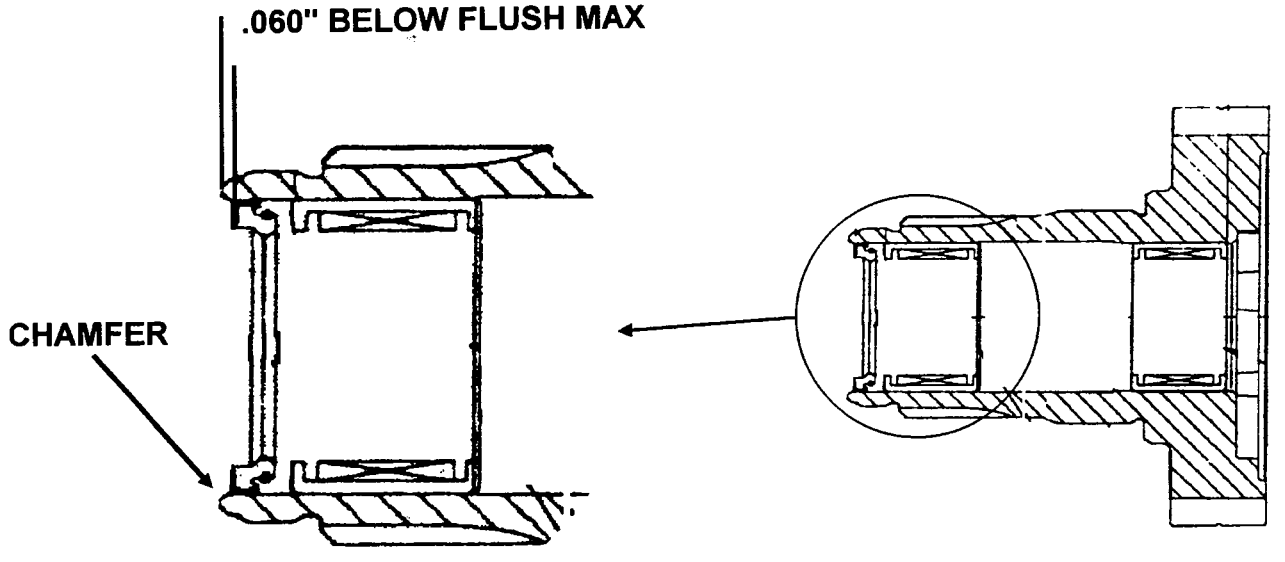
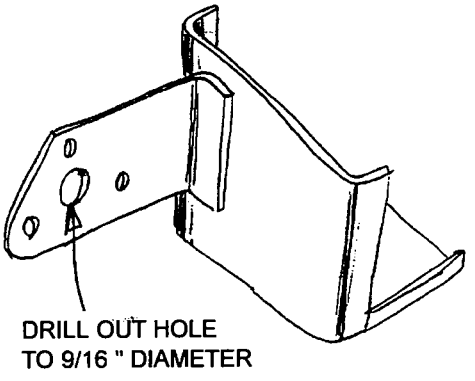


Figure 1

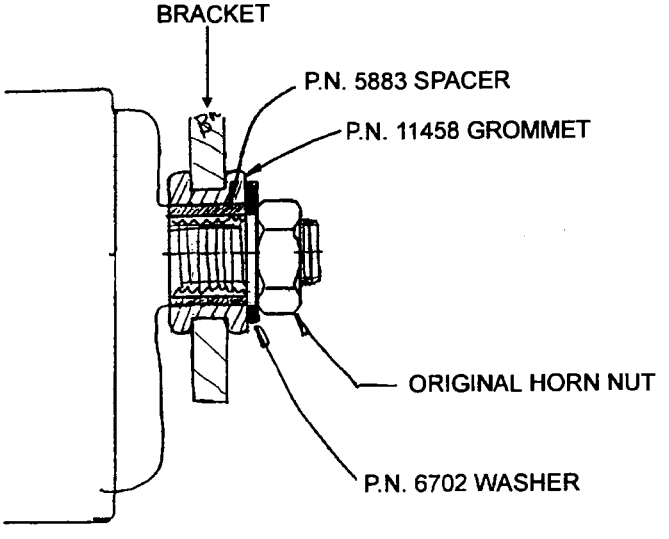
Dyna Horn Tone

A 1994 running change to the Dyna's horn mount has improved the horn's performance. This change can be applied to earlier Dynas with poor horn tone by using existing parts and a 9/16" drill. Refer to the accompanying diagrams.

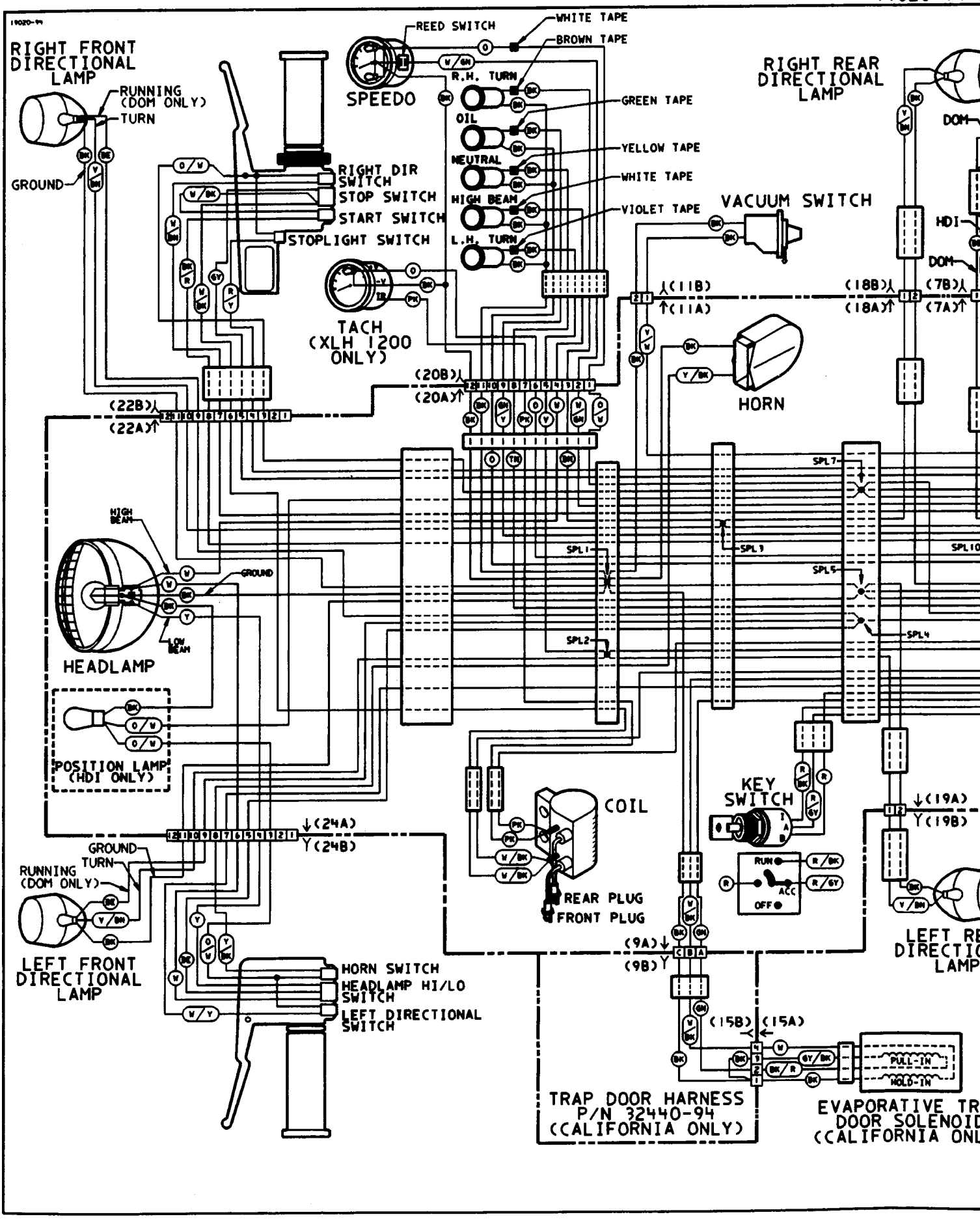
DYNA HORN MOUNT UPDATE

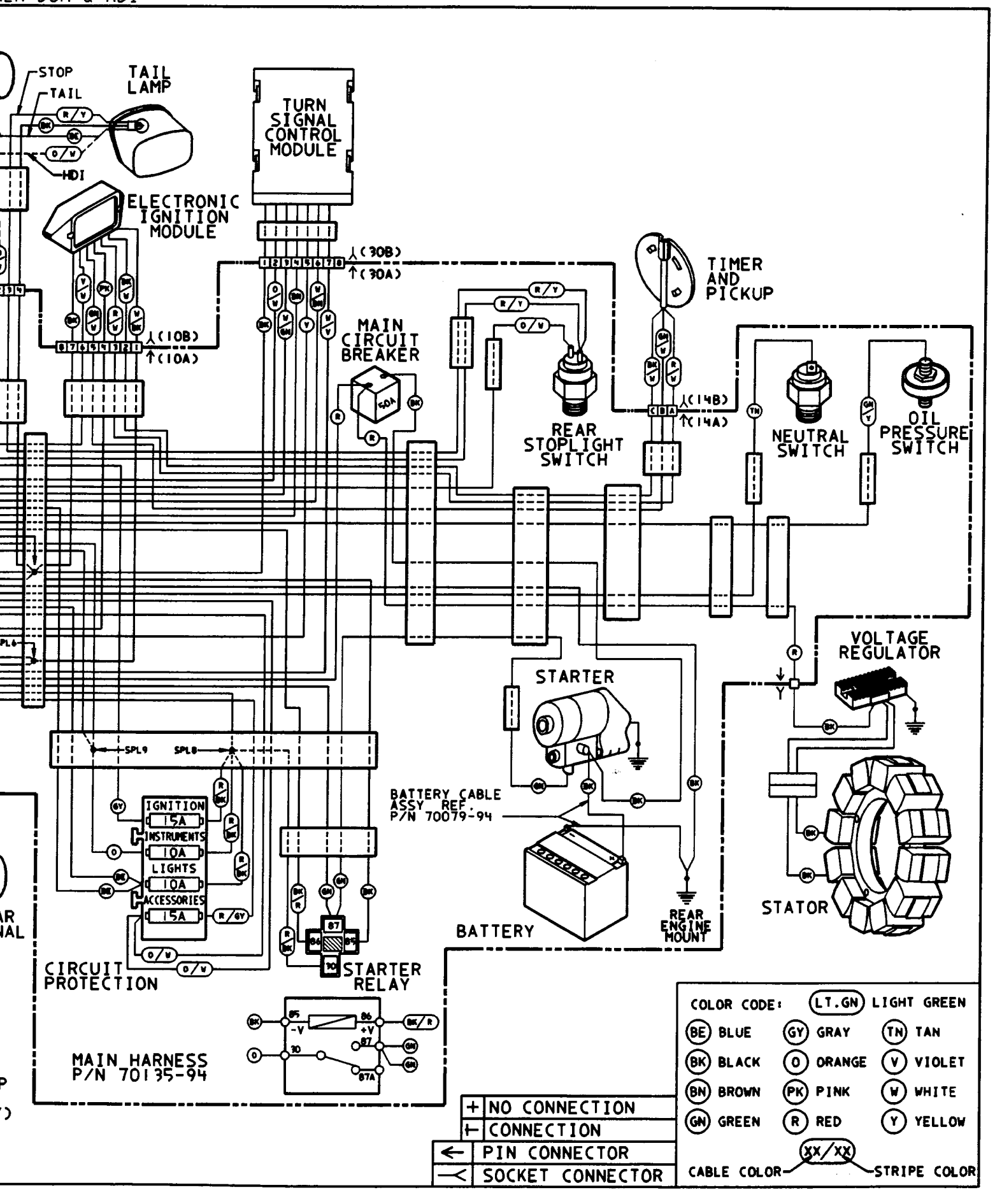


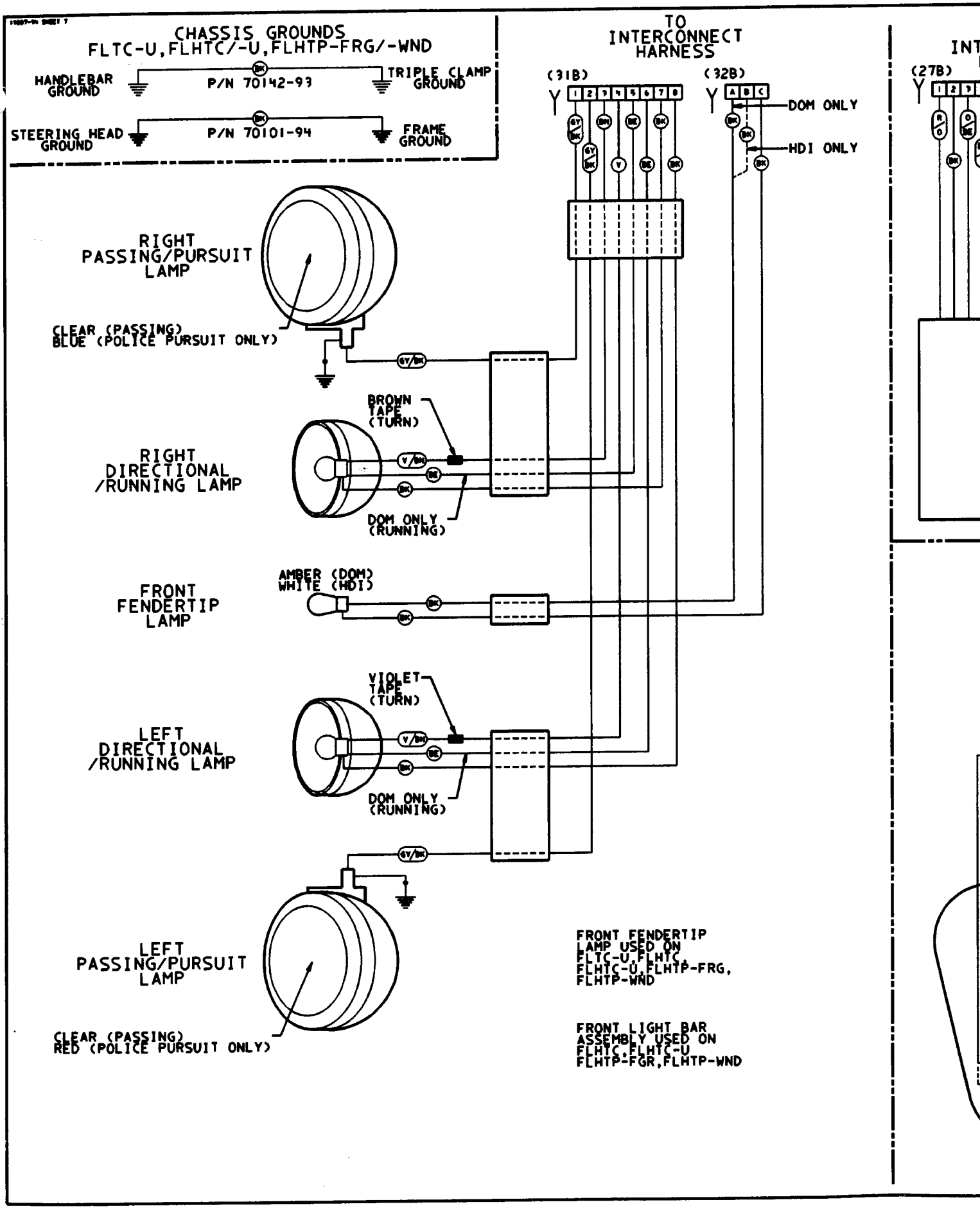
1. REMOVE BATTERY BOX FROM VEHICLE
2. DRILL OUT HOLE TO 9/16 " DIAMETER
3. INSTALL P.N. 11458 GROMMET INTO HOLE
4. INSERT P.N. 5883 SPACER INTO GROMMET
5. REINSTALL HORN AND COVER USING P.N. 6702 FLAT WASHER AND ORIGINAL NUT

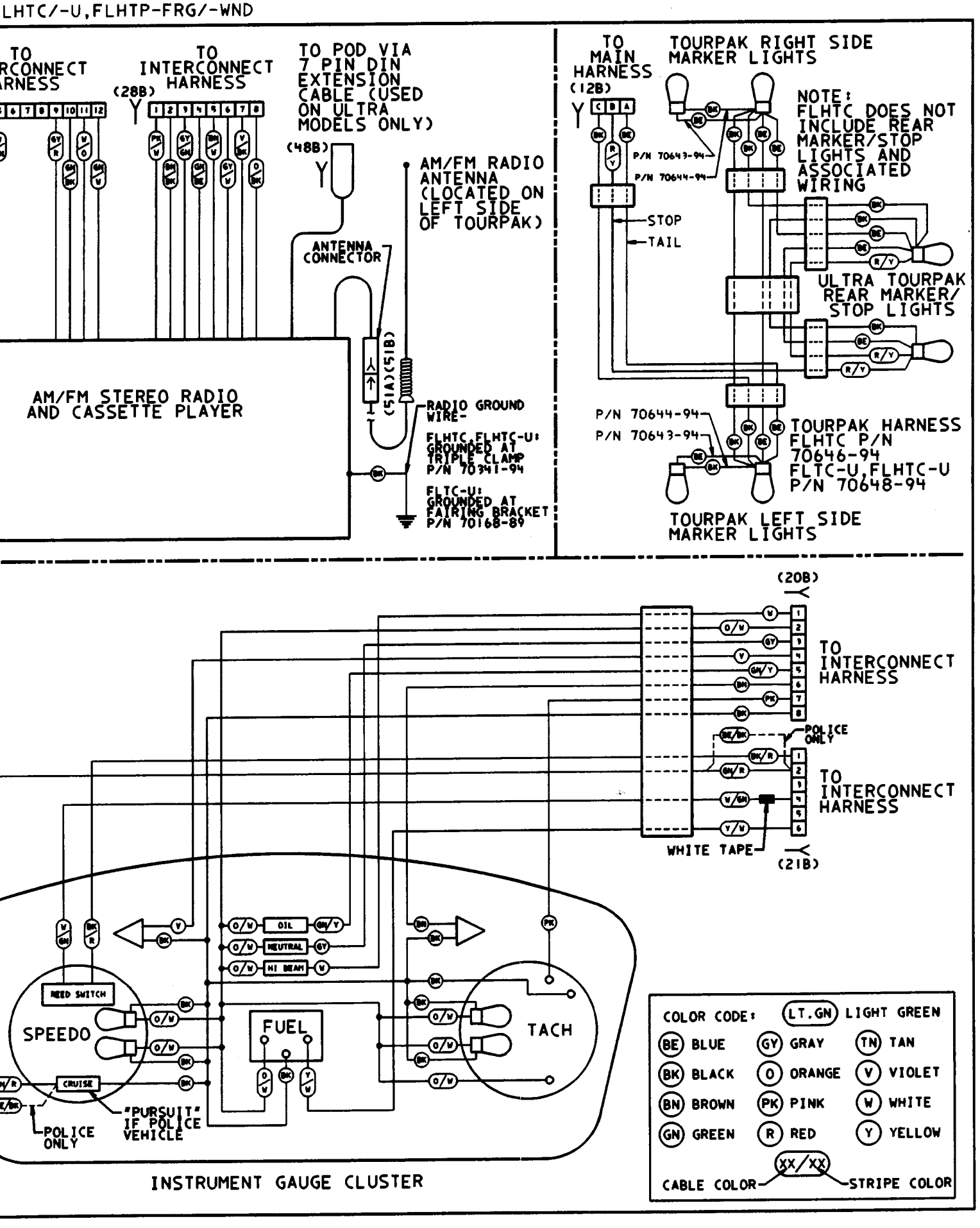


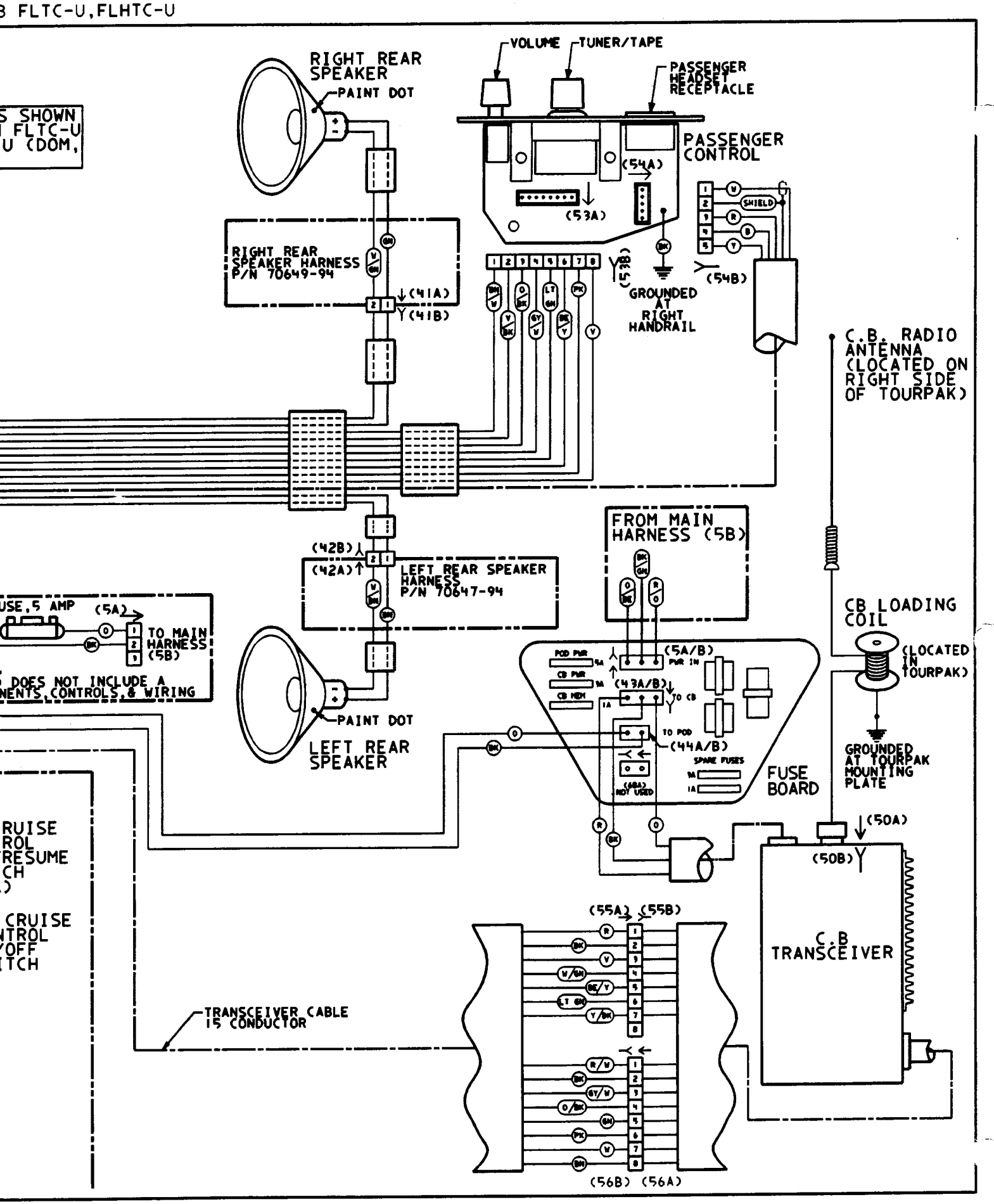
Once the horn is remounted, make absolutely sure that nothing contacts the cover (e.g. battery cable or battery vent hose) or the tone will be disappointing.

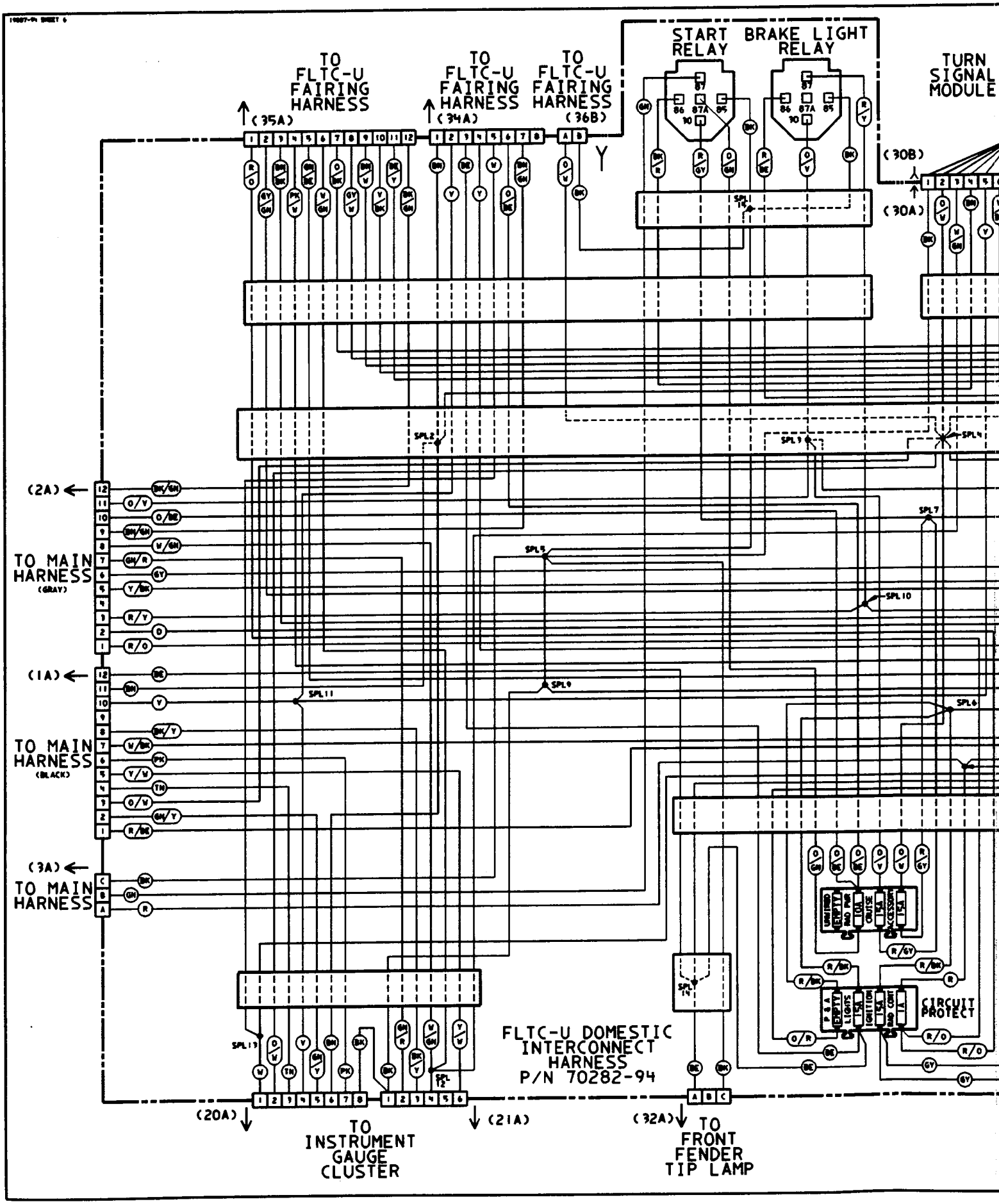

19020-94
RIGHT FRONT DIRECTIONAL LAMP
RUNNING (DOM ONLY)
TURN
GROUND
REED SWITCH
WHITE TAPE
BROWN TAPE
SPEEDO
R.H. TURN
GREEN TAPE
OIL
YELLOW TAPE
NEUTRAL
WHITE TAPE
HIGH BEAM
VIOLET TAPE
L.H. TURN
RIGHT DIR SWITCH
STOP SWITCH
START SWITCH
STOPLIGHT SWITCH
TACH (XLH 1200 ONLY)
VACUUM SWITCH
RIGHT REAR DIRECTIONAL LAMP
DOM
HDI
(11B)
(11A)
(18B)
(18A)
(7B)
(7A)
(20B)
(20A)
(22B)
(22A)
HORN
HIGH BEAM
GROUND
LOW BEAM
HEADLAMP
POSITION LAMP (HDI ONLY)
SPL1
SPL2
SPL3
SPL4
SPL5
SPL7
SPL10
COIL
REAR PLUG
FRONT PLUG
KEY SWITCH
RUN
ACC
OFF
(24A)
(24B)
(19A)
(19B)
GROUND
TURN
RUNNING (DOM ONLY)
LEFT FRONT DIRECTIONAL LAMP
HORN SWITCH
HEADLAMP HI/LO SWITCH
LEFT DIRECTIONAL SWITCH
(9A)
(9B)
(15B)
(15A)
PULL-IN
HOLD-IN
TRAP DOOR HARNESS P/N 32440-94 (CALIFORNIA ONLY)
EVAPORATIVE TR
DOOR SOLENOID
(CALIFORNIA ONL

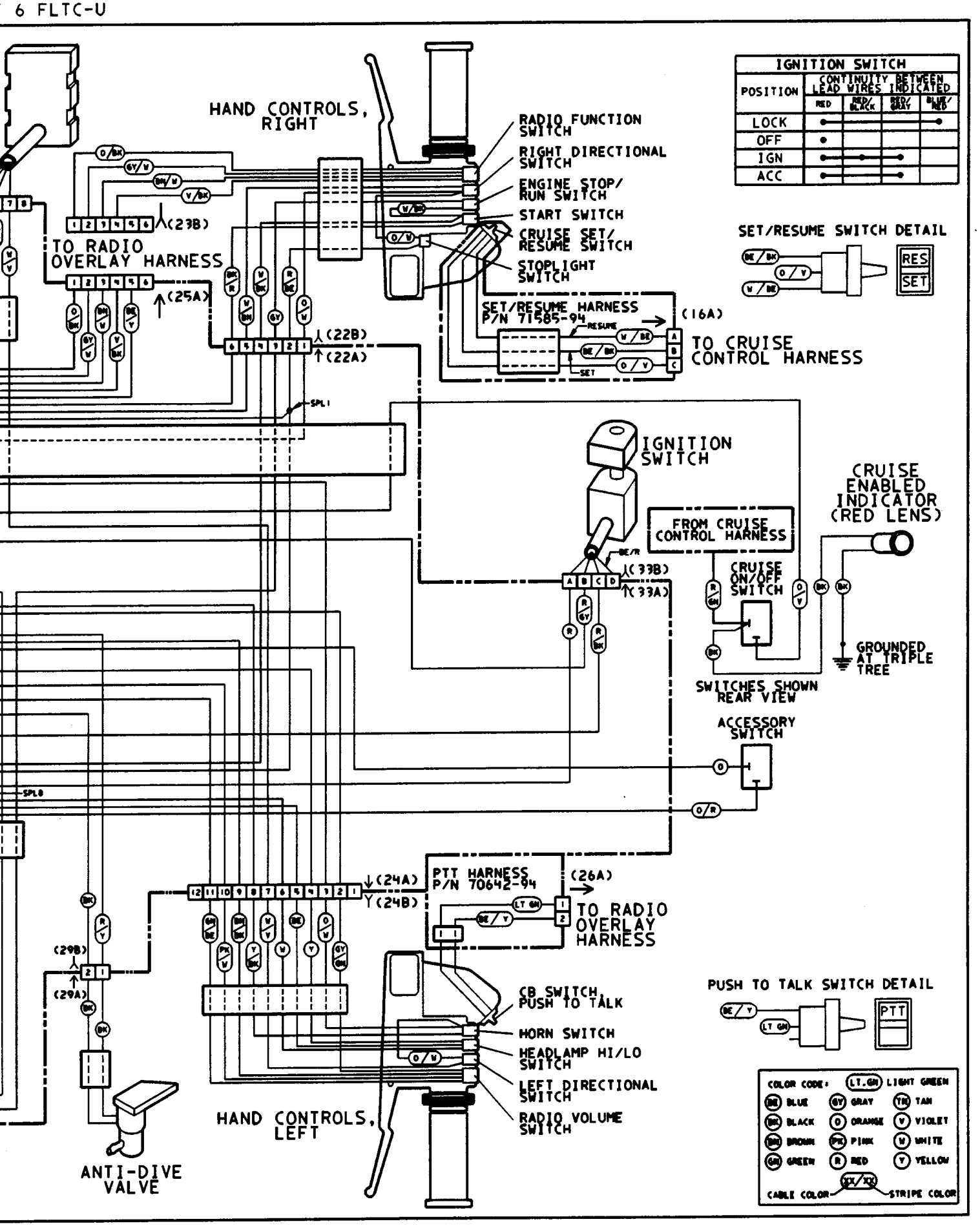

STOP
TAIL
TAIL LAMP
HDI
ELECTRONIC IGNITION MODULE
TURN SIGNAL CONTROL MODULE
(30B)
(30A)
(10B)
(10A)
MAIN CIRCUIT BREAKER
TIMER AND PICKUP
(14B)
(14A)
REAR STOPLIGHT SWITCH
NEUTRAL SWITCH
OIL PRESSURE SWITCH
VOLTAGE REGULATOR
STARTER
BATTERY CABLE ASSY REF: P/N 70079-94
BATTERY
REAR ENGINE MOUNT
STATOR
SPL9
SPL8
IGNITION 15A
INSTRUMENTS 10A
LIGHTS 10A
ACCESSORIES 15A
CIRCUIT PROTECTION
STARTER RELAY
MAIN HARNESS P/N 70135-94
COLOR CODE:
LT.GN LIGHT GREEN
BE BLUE
GY GRAY
TN TAN
BK BLACK
O ORANGE
V VIOLET
BN BROWN
PK PINK
W WHITE
GN GREEN
R RED
Y YELLOW
XX/XX
CABLE COLOR
STRIPE COLOR
+ NO CONNECTION
CONNECTION
PIN CONNECTOR
SOCKET CONNECTOR

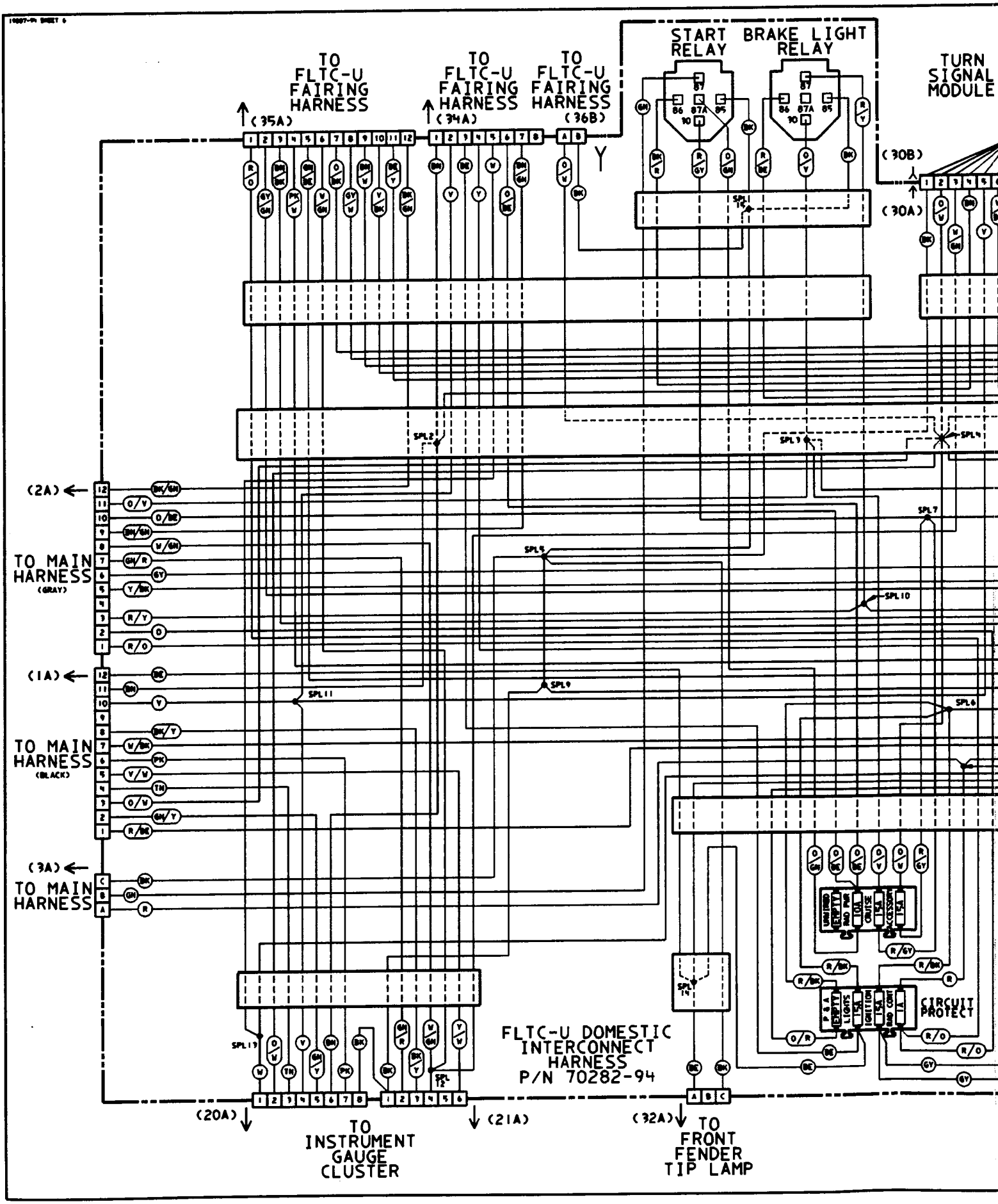

CHASSIS GROUNDS
FLTC-U,FLHTC/-U,FLHTP-FRG/-WND
HANDLEBAR GROUND
P/N 70142-93
TRIPLE CLAMP GROUND
STEERING HEAD GROUND
P/N 70101-94
FRAME GROUND
TO INTERCONNECT HARNESS
(31B)
(32B)
DOM ONLY
HDI ONLY
RIGHT PASSING/PURSUIT LAMP
CLEAR (PASSING)
BLUE (POLICE PURSUIT ONLY)
BROWN TAPE (TURN)
RIGHT DIRECTIONAL /RUNNING LAMP
DOM ONLY (RUNNING)
AMBER (DOM)
WHITE (HDI)
FRONT FENDERTIP LAMP
VIOLET TAPE (TURN)
LEFT DIRECTIONAL /RUNNING LAMP
DOM ONLY (RUNNING)
LEFT PASSING/PURSUIT LAMP
CLEAR (PASSING)
RED (POLICE PURSUIT ONLY)
FRONT FENDERTIP LAMP USED ON FLTC-U,FLHTC, FLHTC-U,FLHTP-FRG, FLHTP-WND
FRONT LIGHT BAR ASSEMBLY USED ON FLHTC,FLHTC-U FLHTP-FGR,FLHTP-WND
(27B)

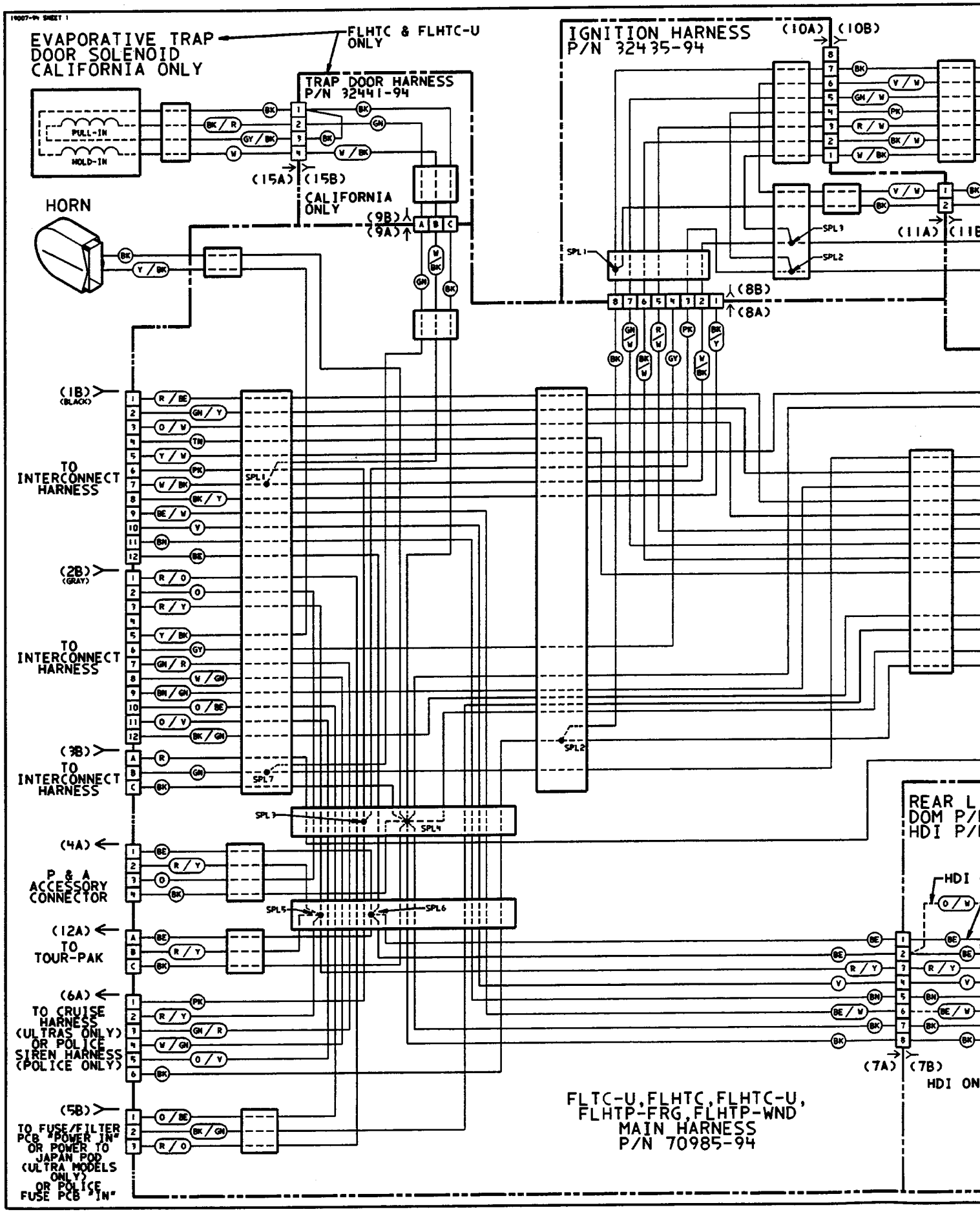

TO INTERCONNECT HARNESS
(28B)
TO INTERCONNECT HARNESS
TO POD VIA 7 PIN DIN EXTENSION CABLE (USED ON ULTRA MODELS ONLY)
(48B)
AM/FM RADIO ANTENNA (LOCATED ON LEFT SIDE OF TOURPAK)
ANTENNA CONNECTOR
(51A)(51B)
AM/FM STEREO RADIO AND CASSETTE PLAYER
RADIO GROUND WIRE-
FLHTC,FLHTC-U: GROUNDED AT TRIPLE CLAMP P/N 70341-94
FLTC-U: GROUNDED AT FAIRING BRACKET P/N 70168-89
TO MAIN HARNESS
(12B)
TOURPAK RIGHT SIDE MARKER LIGHTS
NOTE: FLHTC DOES NOT INCLUDE REAR MARKER/STOP LIGHTS AND ASSOCIATED WIRING
P/N 70643-94
P/N 70644-94
STOP
TAIL
ULTRA TOURPAK REAR MARKER/ STOP LIGHTS
P/N 70644-94
P/N 70643-94
TOURPAK HARNESS FLHTC P/N 70646-94 FLTC-U,FLHTC-U P/N 70648-94
TOURPAK LEFT SIDE MARKER LIGHTS
(20B)
TO INTERCONNECT HARNESS
POLICE ONLY
TO INTERCONNECT HARNESS
WHITE TAPE
(21B)
REED SWITCH
SPEEDO
FUEL
TACH
OIL
NEUTRAL
HI BEAM
CRUISE
"PURSUIT" IF POLICE VEHICLE
POLICE ONLY
INSTRUMENT GAUGE CLUSTER
COLOR CODE:
LT.GN LIGHT GREEN
BE BLUE
GY GRAY
TN TAN
BK BLACK
O ORANGE
V VIOLET
BN BROWN
PK PINK
W WHITE
GN GREEN
R RED
Y YELLOW
XX/XX
CABLE COLOR
STRIPE COLOR


S SHOWN
FLTC-U
U (DOM,
RIGHT REAR SPEAKER
PAINT DOT
VOLUME
TUNER/TAPE
PASSENGER HEADSET RECEPTACLE
PASSENGER CONTROL
(54A)
(53A)
SHIELD
(54B)
(53B)
GROUNDED AT RIGHT HANDRAIL
RIGHT REAR SPEAKER HARNESS P/N 70649-94
(41A)
(41B)
C.B. RADIO ANTENNA (LOCATED ON RIGHT SIDE OF TOURPAK)
FROM MAIN HARNESS (5B)
(42B)
(42A)
LEFT REAR SPEAKER HARNESS P/N 70647-94
USE, 5 AMP
(5A)
TO MAIN HARNESS (5B)
DOES NOT INCLUDE A
NENTS, CONTROLS, & WIRING
CB LOADING COIL
(LOCATED IN TOURPAK)
(5A/B)
PWR IN
(43A/B)
TO CB
TO POD
(44A/B)
SPARE FUSES
NOT USED
FUSE BOARD
GROUNDED AT TOURPAK MOUNTING PLATE
(50A)
(50B)
RUISE
ROL
RESUME
CH
CRUISE
NTROL
OFF
ITCH
(55A)
(55B)
C.B TRANSCEIVER
TRANSCEIVER CABLE 15 CONDUCTOR
(56B)
(56A)

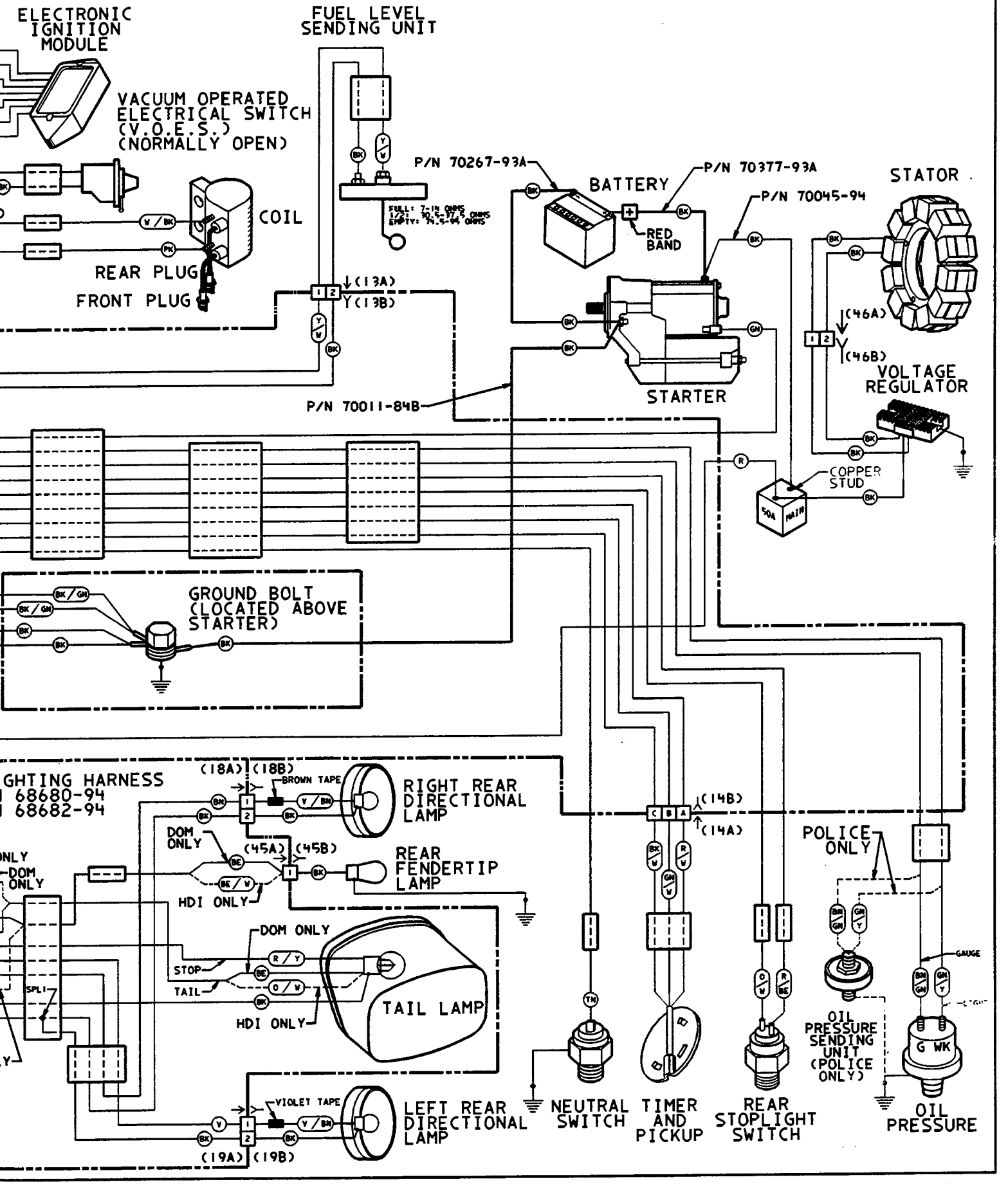

TO FLTC-U FAIRING HARNESS (35A)
TO FLTC-U FAIRING HARNESS (34A)
TO FLTC-U FAIRING HARNESS (36B)
START RELAY
BRAKE LIGHT RELAY
TURN SIGNAL MODULE
(30B)
(30A)
(2A)
TO MAIN HARNESS (GRAY)
(1A)
TO MAIN HARNESS (BLACK)
(3A)
TO MAIN HARNESS
FLTC-U DOMESTIC INTERCONNECT HARNESS P/N 70282-94
(20A)
TO INSTRUMENT GAUGE CLUSTER
(21A)
(32A)
TO FRONT FENDER TIP LAMP
CIRCUIT PROTECT

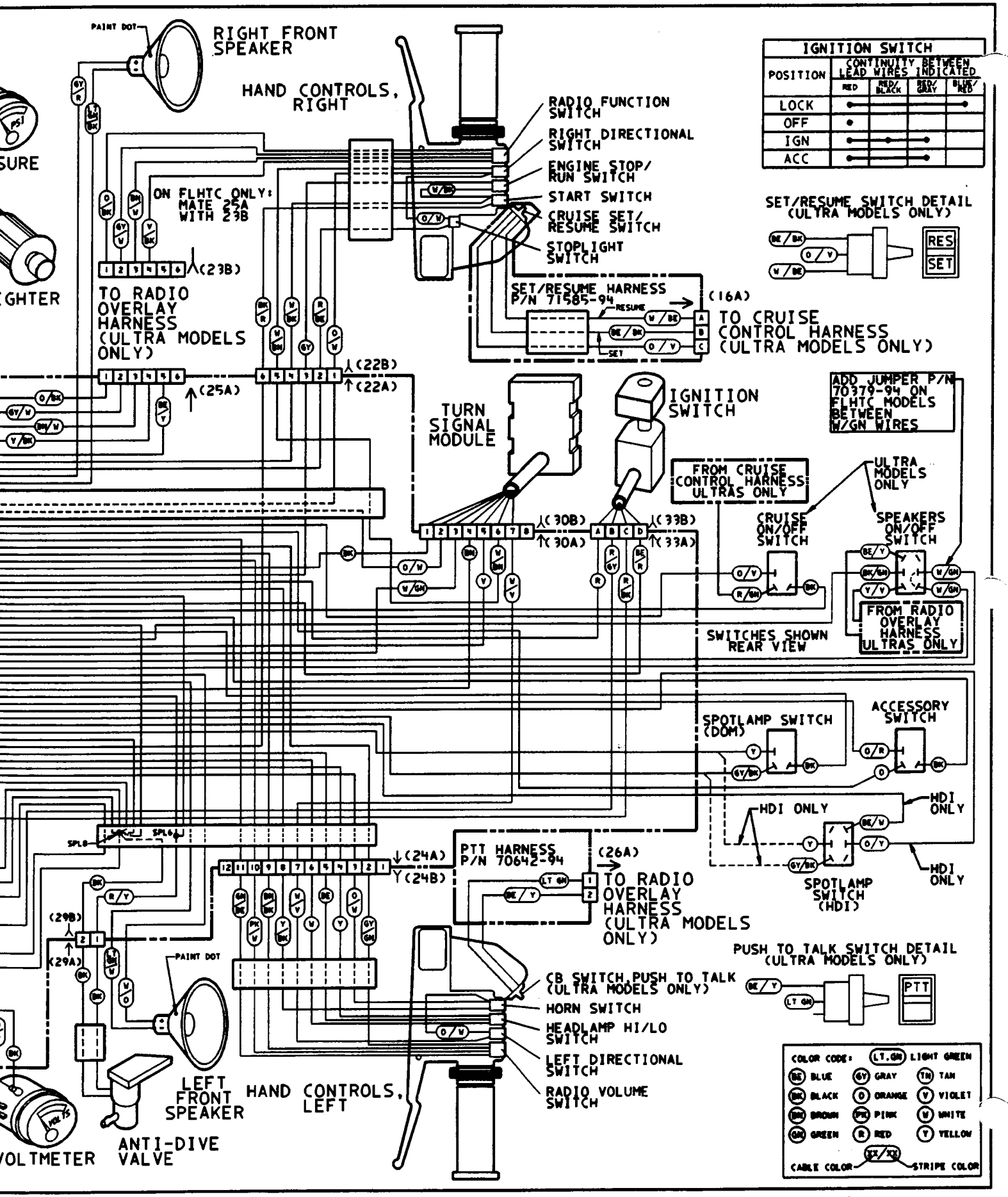

HAND CONTROLS, RIGHT
RADIO FUNCTION SWITCH
RIGHT DIRECTIONAL SWITCH
ENGINE STOP/ RUN SWITCH
START SWITCH
CRUISE SET/ RESUME SWITCH
STOPLIGHT SWITCH
TO RADIO OVERLAY HARNESS
(23B)
(25A)
(22B)
(22A)
SPL1
SET/RESUME HARNESS P/N 71585-94
(16A)
TO CRUISE CONTROL HARNESS
IGNITION SWITCH
FROM CRUISE CONTROL HARNESS
(33B)
(33A)
CRUISE ENABLED INDICATOR (RED LENS)
CRUISE ON/OFF SWITCH
GROUNDED AT TRIPLE TREE
SWITCHES SHOWN REAR VIEW
ACCESSORY SWITCH
SPL8
PTT HARNESS P/N 70642-94
(26A)
TO RADIO OVERLAY HARNESS
(24A)
(24B)
(29B)
(29A)
CB SWITCH PUSH TO TALK
HORN SWITCH
HEADLAMP HI/LO SWITCH
LEFT DIRECTIONAL SWITCH
RADIO VOLUME SWITCH
HAND CONTROLS, LEFT
ANTI-DIVE VALVE
IGNITION SWITCH
POSITION
CONTINUITY BETWEEN LEAD WIRES INDICATED
RED
RED/ BLACK
RED/ GRAY
BLUE/ RED
LOCK
OFF
IGN
ACC
SET/RESUME SWITCH DETAIL
RES
SET
PUSH TO TALK SWITCH DETAIL
PTT
COLOR CODE:
LT. GN LIGHT GREEN
BE BLUE
GY GRAY
TN TAN
BK BLACK
O ORANGE
V VIOLET
BN BROWN
PK PINK
W WHITE
GN GREEN
R RED
Y YELLOW
XX/XX
CABLE COLOR
STRIPE COLOR

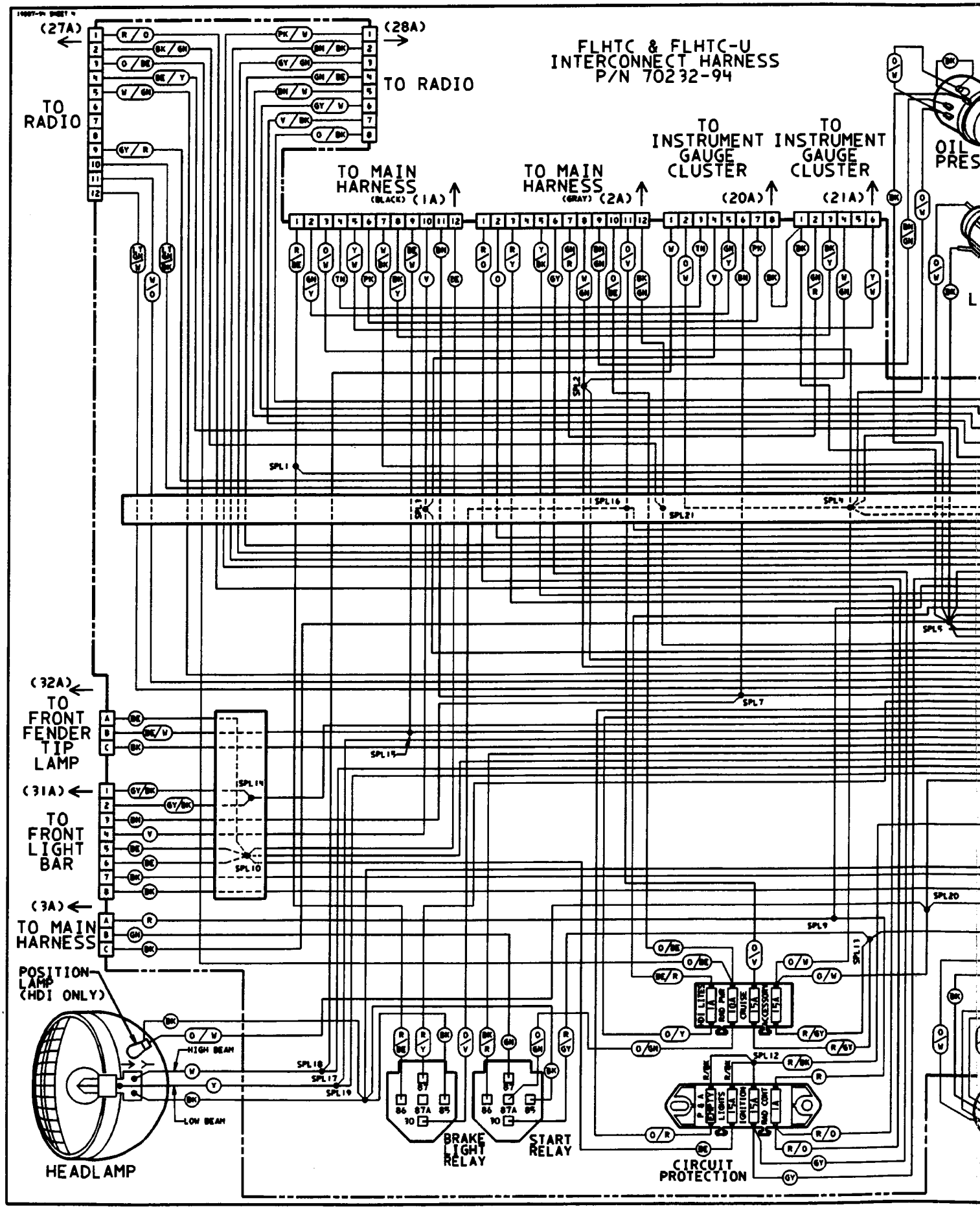

TO FLTC-U FAIRING HARNESS (35A)
TO FLTC-U FAIRING HARNESS (34A)
TO FLTC-U FAIRING HARNESS (36B)
START RELAY
BRAKE LIGHT RELAY
TURN SIGNAL MODULE
(30B)
(30A)
(2A)
TO MAIN HARNESS (GRAY)
(1A)
TO MAIN HARNESS (BLACK)
(3A)
TO MAIN HARNESS
SPL 1
SPL 2
SPL 3
SPL 4
SPL 5
SPL 6
SPL 7
SPL 8
SPL 9
SPL 10
SPL 11
SPL 12
SPL 13
SPL 14
CIRCUIT PROTECT
FLTC-U DOMESTIC INTERCONNECT HARNESS P/N 70282-94
(20A)
TO INSTRUMENT GAUGE CLUSTER
(21A)
(32A)
TO FRONT FENDER TIP LAMP



TECH PUB NOTE: USE 43 X 26 FORMAT


ELECTRONIC IGNITION MODULE
FUEL LEVEL SENDING UNIT
VACUUM OPERATED ELECTRICAL SWITCH (V.O.E.S.) (NORMALLY OPEN)
COIL
REAR PLUG
FRONT PLUG
P/N 70267-93A
BATTERY
P/N 70377-93A
P/N 70045-94
STATOR
RED BAND
(13A)
(13B)
(46A)
(46B)
VOLTAGE REGULATOR
STARTER
P/N 70011-84B
COPPER STUD
GROUND BOLT (LOCATED ABOVE STARTER)
GHTING HARNESS
68680-94
68682-94
(18A)
(18B)
BROWN TAPE
RIGHT REAR DIRECTIONAL LAMP
DOM ONLY
(45A)
(45B)
REAR FENDERTIP LAMP
HDI ONLY
(14B)
(14A)
POLICE ONLY
DOM ONLY
STOP
TAIL
TAIL LAMP
HDI ONLY
VIOLET TAPE
LEFT REAR DIRECTIONAL LAMP
(19A)
(19B)
NEUTRAL SWITCH
TIMER AND PICKUP
REAR STOPLIGHT SWITCH
OIL PRESSURE SENDING UNIT (POLICE ONLY)
OIL PRESSURE
GAUGE


RIGHT FRONT SPEAKER
PAINT DOT
HAND CONTROLS, RIGHT
RADIO FUNCTION SWITCH
RIGHT DIRECTIONAL SWITCH
ENGINE STOP/ RUN SWITCH
START SWITCH
CRUISE SET/ RESUME SWITCH
STOPLIGHT SWITCH
ON FLHTC ONLY: MATE 25A WITH 23B
(23B)
TO RADIO OVERLAY HARNESS (ULTRA MODELS ONLY)
SET/RESUME HARNESS P/N 71585-94
(16A)
TO CRUISE CONTROL HARNESS (ULTRA MODELS ONLY)
IGNITION SWITCH
POSITION
CONTINUITY BETWEEN LEAD WIRES INDICATED
RED
RED/ BLACK
RED/ GRAY
BLUE/ RED
LOCK
OFF
IGN
ACC
SET/RESUME SWITCH DETAIL (ULTRA MODELS ONLY)
RES
SET
(22B)
(22A)
(25A)
TURN SIGNAL MODULE
IGNITION SWITCH
ADD JUMPER P/N 70379-94 ON FLHTC MODELS BETWEEN W/GN WIRES
FROM CRUISE CONTROL HARNESS ULTRAS ONLY
ULTRA MODELS ONLY
CRUISE ON/OFF SWITCH
SPEAKERS ON/OFF SWITCH
(30B)
(30A)
(33B)
(33A)
FROM RADIO OVERLAY HARNESS ULTRAS ONLY
SWITCHES SHOWN REAR VIEW
SPOTLAMP SWITCH (DOM)
ACCESSORY SWITCH
HDI ONLY
HDI ONLY
HDI ONLY
SPOTLAMP SWITCH (HDI)
(24A)
(24B)
PTT HARNESS P/N 70642-94
(26A)
TO RADIO OVERLAY HARNESS (ULTRA MODELS ONLY)
(29B)
(29A)
PAINT DOT
PUSH TO TALK SWITCH DETAIL (ULTRA MODELS ONLY)
PTT
CB SWITCH, PUSH TO TALK (ULTRA MODELS ONLY)
HORN SWITCH
HEADLAMP HI/LO SWITCH
LEFT DIRECTIONAL SWITCH
RADIO VOLUME SWITCH
LEFT FRONT SPEAKER
HAND CONTROLS, LEFT
ANTI-DIVE VALVE
VOLTMETER
COLOR CODE:
LT. GN LIGHT GREEN
BE BLUE
GY GRAY
TN TAN
BK BLACK
O ORANGE
V VIOLET
BR BROWN
PK PINK
W WHITE
GN GREEN
R RED
Y YELLOW
CABLE COLOR
STRIPE COLOR


FLHTC & FLHTC-U
INTERCONNECT HARNESS
P/N 70232-94
(27A)
TO RADIO
(28A)
TO RADIO
TO MAIN HARNESS (BLACK) (1A)
TO MAIN HARNESS (GRAY) (2A)
TO INSTRUMENT GAUGE CLUSTER
(20A)
TO INSTRUMENT GAUGE CLUSTER
(21A)
OIL PRES
(32A)
TO FRONT FENDER TIP LAMP
(31A)
TO FRONT LIGHT BAR
(3A)
TO MAIN HARNESS
POSITION LAMP (HDI ONLY)
HIGH BEAM
LOW BEAM
HEADLAMP
BRAKE LIGHT RELAY
START RELAY
CIRCUIT PROTECTION
SPL1
SPL2
SPL4
SPL5
SPL7
SPL9
SPL10
SPL11
SPL12
SPL15
SPL16
SPL17
SPL18
SPL19
SPL20
SPL21