



Trans Tech Bus *a JCI Company*

Bus Body
Maintenance and
Operations Manual

TRANS TECH BUS MAINTENANCE AND OPERATION MANUAL

This manual should be considered a permanent part of your new Trans Tech Bus vehicle; it should stay with the vehicle at all times in order to provide the operator with important operation and maintenance information.

On the following page is a copy of Tran Tech Bus's Certification Label; this label is required by Federal Motor Vehicle Safety Standards to be attached the every vehicle. It lists vital information about your vehicle, including: Manufacturer, date of manufacture; chassis manufacturer; Gross Vehicle Weight Rating; Gross Front Axle Rating; Gross Rear Axle Rating; 17-Digit Vehicle Identification Number (VIN); vehicle type (Bus, School Bus, Truck, etc.); Vehicle Model Number; Tire and rim information.

SAMPLE OF TRANS TECH BUS FEDERAL CERTIFICATION LABEL

MFD. BY: _____

DATE OF MFR:MO. _____ YR. _____

GVWR: _____ KG(_____ LB)

GAWR-FRONT: _____

WITH _____ KG(_____ LB)

(_____ RIMS, @ _____ TIRES, _____ KPA

(_____ PSI) COLD SINGLE

GAWR-INTERMEDIATE (1): _____

WITH _____ KG(_____ LB)

(_____ RIMS, @ _____ TIRES, _____ KPA

(_____ PSI) COLD

GAWR-INTERMEDIATE (2): _____

WITH _____ KG(_____ LB)

(_____ RIMS, @ _____ TIRES, _____ KPA

(_____ PSI) COLD

GAWR-REAR: _____

WITH _____ KG(_____ LB)

(_____ RIMS, @ _____ TIRES, _____ KPA

(_____ PSI) COLD DUAL

THIS VEHICLE CONFORMS TO ALL
APPLICABLE FEDERAL MOTOR
VEHICLE SAFETY STANDARDS, [AND
BUMPER AND THEFT PREVENTION
STANDARDS, IF APPLICABLE] IN
EFFECT IN:
MO. _____ YR. _____

VEHICLE IDENTIFICATION NUMBER: _____

VEHICLE TYPE: _____

DELIVERY INSPECTION

Your new Trans Tech Bus product has been inspected many times during the manufacturing process, and again just prior to release by our Quality Control personnel; however, it is recommended that you inspect the vehicle upon delivery and prior to placing the vehicle into service. Among the important items to be checked are:

1. Entrance door operation- door opens and closes fully.
2. Rear emergency door operation- opens and closes properly; latching mechanism operates freely; door retainer engages upon opening the door, and disengages when door is opened past 90 degrees.
3. Heating and defrosting systems operation properly.
4. All lights illuminate and function properly.
5. All safety equipment is installed and accessible.
6. Windshield wiping and washing systems are operating properly.

CHASSIS MAINTENANCE AND WARRANTY

Consult the Chassis Owner's manual for proper maintenance intervals for the various systems on your new vehicle; improper maintenance could lead to cancellation of your vehicle's chassis warranty. For information concerning your vehicle's chassis, please contact your local dealer for your particular chassis make.

WHEELCHAIR LIFT (if so equipped)

If your vehicle is equipped with a wheelchair lift consult the owner's manual furnished with the lift for the manufacturer's maintenance schedule.

AIR CONDITIONING SYSTEM (if so equipped)

If your vehicle is equipped with an air conditioning system, consult the owner's manual furnished by the manufacturer for proper maintenance instructions.

STANDARD VEHICLE AND SYSTEM MAINTENANCE

BATTERY(IES)

The battery(ies) should be checked whenever other items under the hood are serviced and/or checked. Consult your chassis owner's manual for proper care of your vehicle's battery system. Be sure all cables are clamped tight to the battery terminals, and are not corroded. Check for worn or bare spots on the cable's covering, and replace as necessary.

Always consult your chassis owner's manual for instructions regarding disconnecting the battery cables before servicing certain systems; disconnecting the cables improperly could affect your vehicle's computer systems and the vehicle's overall performance.

BATTERY COMPARTMENT (if so equipped)

Some vehicles are equipped with an outside battery compartment with a hinged door; if your vehicle is so equipped, lubricate the hinge every 60 days or 2000 miles, with a "lubriplate" type grease. Open and close the door several times to ensure that lubricant penetrates all barrels of the hinge and that the door swings freely.

BODY MOUNTING BOLTS

Every 60 days or 2000 miles, check all body mounting hardware for loose or missing fasteners or isolator pads. Tighten fasteners as necessary.

DOORS

The interior slide-bar, lock spring, door handle shaft, and upper and lower pivots are to be lubricated with a "lubriplate" type of lubricant. The mechanism should be operated several times to ensure free movement of all parts. Check operation of the door retainer mechanism.

EMERGENCY DOOR (CONT'D)

The door seal should be checked thoroughly for cracks, torn places, and areas not adhering to the door frame. Seal may be re-attached using contact cement. Spraying a light coating of silicone on the seal will greatly prolong its life.

CAUTION: THE REAR EMERGENCY DOOR IS DESIGNED TO BE USED AS A MEANS OF EMERGENCY EGRESS ONLY. USE OF THIS DOOR FOR ROUTINE INGRESS AND EGRESS DURING MAINTENANCE CAN RESULT IN FALLS AND SERIOUS INJURY.

ENTRANCE DOOR

The entrance door linkage should be checked for proper adjustment daily, by the driver, by simply observing the door's operation. Door controls binding, hard to operate, or door panels not fully opening or closing are indications that the entrance door needs to be serviced immediately. Linkage adjustments can be made by detaching the clevis from the yoke at the door, loosening the rod jam nut, and adjusting the yoke in or out on the shaft. When adjustment is complete, re-tighten the jam nut to secure the yoke's position.

Normal maintenance is to be performed every 60 days or 2000 miles. All door linkage pivots and hinges are to be lubricated with S.A.E. 20W non-detergent oil.

FLOOR

The floor should be swept daily to prevent premature deterioration of the floor covering.

The floor should be washed weekly to prevent build-up of mud, gravel, and other debris that can become imbedded in the floor covering. During the winter months, the floor should be cleaned more often.

When washing the floor, use a mild detergent with as little water as possible. Rinse the floor with plain water, and dry the floor. Excess water left standing on the floor can cause separation of the floor covering.

CAUTION: DO NOT USE SOLVENT-BASED CLEANERS; ALSO, DO NOT USE COMMON HOUSEHOLD FLOOR POLISHES DESIGNED TO SHINE THE FLOOR, AS THESE CAN CAUSE A SLIPPING HAZARD WHEN WET.

ROOF ESCAPE HATCH

Every 30 days or 1000 miles, the roof escape hatch, if so equipped, should be examined and serviced as follows;

Lubricate the hatch lid hinge with silicone spray and move the lid back and forth several times to ensure free movement.

Inspect the rubber seal around the hatch lid, and replace if necessary. The life of the seal can be extended by applying a thin coat of silicone spray to the seal.

HEATER-UNDERSEAT

The underseat heater should be inspected regularly and kept free of dirt, lint, and foreign objects. The heater core should be inspected for leaks, obstructions, and damaged fins. Fins should be straightened using an appropriate "comb", or by replacing the core if necessary.

If it is necessary to add anti-freeze, consult chassis owner's manual to determine the proper type and grade.

PAINT

Wash the exterior of your bus regularly with a mild detergent and water. Rinse well, and allow drying. Inspect exterior of bus for scratches and other paint damage regularly; touch up paint as necessary to prolong the paint's finish.

Do not apply wax or cleaner to the painted surface for at least four weeks from date of manufacture in order for adequate "curing" of the finish; after this initial period, a good quality wax will prolong the life of the finish.

CAUTION: DO NOT USE MINERAL SPIRITS, NAPHTHA, OR OTHER SOLVENT-BASED PRODUCTS WHEN CLEANING.

PASSENGER SEATS

Maintenance should be performed every 5,000 miles or more often if conditions warrant.

Tighten seat-to-floor mounting bolts and cushion clips.

The seats in your new vehicle are covered with a durable vinyl upholstery designed to meet certain flammability standards; they should be cleaned with a mild detergent and water, rinsed, and dried. **DO NOT USE SOLVENT-BASED FLUIDS AS CLEANING AGENTS!**

PASSENGER SEAT BELTS

The seat belts installed in your vehicle, if so equipped, have been designed, tested, and installed in compliance with all applicable Federal Motor Vehicle Safety Standards; if it should become necessary to replace a seat belt, consult your U.S. Bus distributor or the factory to ensure that you obtain the appropriate replacement parts.

If you are using the seat belt to restrain an infant carrier, always follow the carrier manufacturer's installation procedure to ensure the highest level of safety.

All passenger seat belts can be adjusted to accommodate a wide variety of passengers; simply lengthen or shorten the male (tongue) portion so that the belt rides across the hips of the occupant, and not the waist.

If required, the belt webbing can be cleaned with a mild detergent a lukewarm water only; do not use any solvent-based cleaners or attempt to re-dye the webbing, as this can weaken the fibers and result in failure of the belt.

STOP ARM

Every 1000 miles, lubricate the stop arm hinge with S.A.E. 20W non-detergent oil; inspect all wiring for chafing, and inspect fasteners for tightness.

TOWING

Tow eyes or hooks, if vehicle is so equipped, are designed for towing the vehicle with all wheels on the ground. Do not attempt to lift the vehicle by means of these tow eyes or hooks.

Always consult your chassis owner's manual for proper towing instructions.

WINDOWS

Keep all windows of your vehicle clean at all times.

All split-type passenger side windows are to be checked every 3000 miles.

On all split windows, check operation of latches and check tracks for debris. Lubricate sash latch and frame channels with a silicone spray.

On emergency exit windows, lubricate the hinges with S.A.E. 20W non-detergent oil; open and close the window several times to ensure proper lubrication of the hinges. At the handle assembly, lubricate the pivoting area and the latch retainer spring with a "lubriplate" type grease. Operate the handle several times to ensure that grease has penetrated all areas.

BODY WIRING

At least annually, all body wiring connections should be checked to ensure that connections are mated properly, that wires are not pulling loose from connectors or pins, and that harnesses remain properly insulated and are not rubbing or chafing on metal edges.

Areas to be checked are connections on the rear of the switch control module, above the windshield in the header area, and down the length of the body in the wire channel. As there are connections within the wire channel, the wire channel should be taken down and all connections checked as above.

Checking wire connections in this manner will help to ensure trouble-free operation of electrical devices and to reduce the possibility of short-circuits and battery drain.



TransTech Bus Electrical Department

Harness Location	Option	Wire	Color	
Dash Harness --▶	A/C	A/C Compressor	Blue Orange	Azul Anaranjado
Dash Harness --▶	Child Check System	Child Check	Tan	Marron
Dash Harness --▶	Crossing Gate	Stop Arm Power Crossing Gate Ground	Red Blue White	Rojo Azul Blanco
Dash Harness --▶	Crossing Gate Magnet	Ignition Crossing Gate Ground	Red Blue White	Rojo Azul Blanco
Dash Harness --▶	Fire Detection	Ignition Ground	Red White	Rojo Blanco
Dash Harness --▶	Heated Mirror	Heated Mirror Ground	Yellow White	Amarillo Blanco
Dash Harness --▶	Ignition Relay	Ignition Relay	Purple	Morado
Dash Harness --▶	Radio	Battery Ignition Ground Speakers	Yellow Red White Metallic	Amarillo Rojo Blanco Metalizada
Dash Harness --▶	Remote Mirror	Ignition Heated Mirror Ground	Red Yellow White	Rojo Amarillo Blanco
Dash Harness --▶	Spare	Spare D Spare E	Green Yellow	Verde Amarillo
Dash Harness --▶	Vandal Lock	Vandal Lock Vandal Lock	Red Red	Rojo Rojo
Dash Harness --▶	Wheelchair Lift	ShiftLock Interlock E-Brake	Tan Green Light Blue	Marron Verde Azul

TransTech Bus Electrical Department

Harness Location	Option	Purpose	Color	
Main Harness --▶	Defroster Fan	DEF (High) DEF (Low) Ground	Red Blue White	Rojo Azul Blanco
Main Harness --▶	A/C	A/C Ignition Compressor A/C Ignition	Red Orange Blue	Rojo Anaranjado Azul
Main Harness --▶	Bi-Fold Switch	Door Flash Ground	Green White	Verde Blanco
Main Harness --▶	Child Check System	Child Check Rear Door Buzzer Ground	Grey Yellow White	Gris Amarillo Blanco
Main Harness --▶	Dome Lights	Dome Light	Tan	Marron
Main Harness --▶	Electric Door	Ignition Battery Elec. Door Elec. Door Step Light	Red Yellow Yellow Purple Blue	Rojo Amarillo Amarillo Morado Azul
Main Harness --▶	Emergency Window	Window Alarm	Orange	Anaranjado
Main Harness --▶	Heater	Heater High Heater Low	Red Green	Rojo Verde
Main Harness --▶	Left Turn	Left Turn Ground	Yellow White	Amarillo Blanco
Main Harness --▶	Lighted Sign	Rear Sign	Black	Negro
Main Harness --▶	Marker Lights	Marker Light Ground	Brown White	Marron Blanco
Main Harness --▶	Rear Door Switch	Ground Rear Door Buzzer	White Yellow	Blanco Amarillo
Main Harness --▶	Right Turn	Right Turn Ground	Green White	Verde Blanco
Main Harness --▶	Roof Hatch	Roof Hatch	Pink	Rosa
Main Harness --▶	Spare	Spare A Spare B Spare C	Orange Red Blue	Anaranjado Rojo Azul
Main Harness --▶	Step Light	Step Light	Blue	Azul
Main Harness --▶	Stop Arm	Stop Arm Power Stop Arm Flash Ground	Red Blue White	Rojo Azul Blanco
Main Harness --▶	Strobe Light	Strobe	Tan	Marron
Main Harness --▶	Vandal Lock	Vandal Pilot Ignition Vandal Lock Ground	Yellow Red Blue White	Amarillo Rojo Azul Blanco
Main Harness --▶	Wheelchair Lift	Interlock Lift Light Lift Switch	Green Red Yellow	Verde Rojo Amarillo

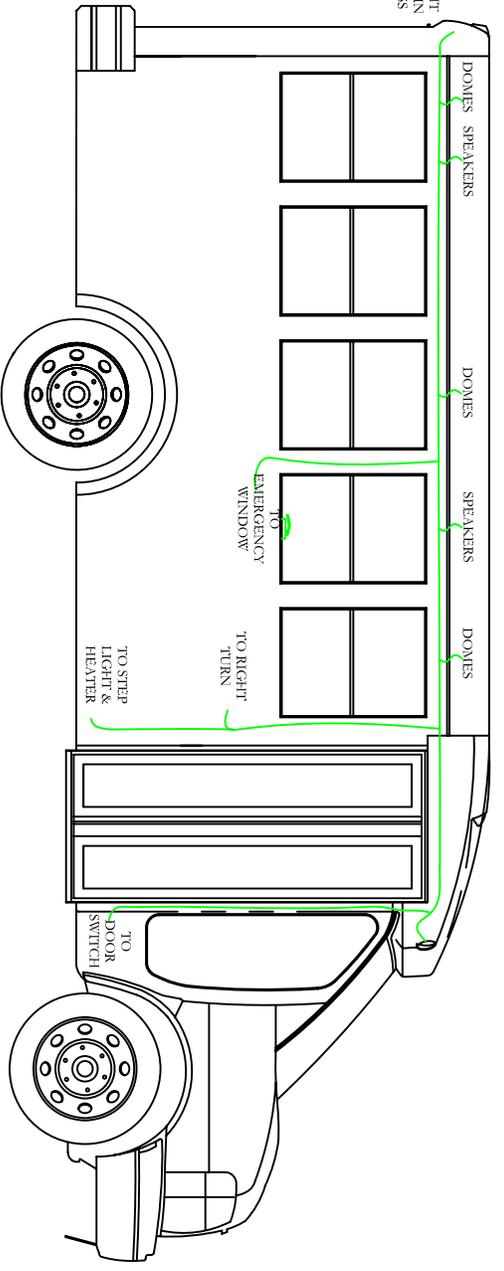
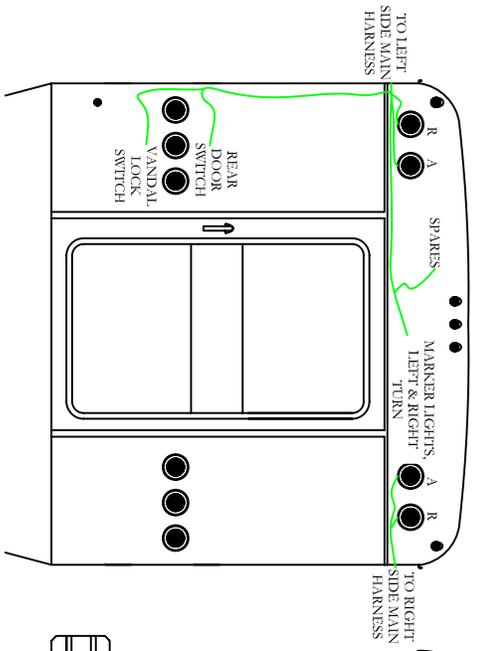
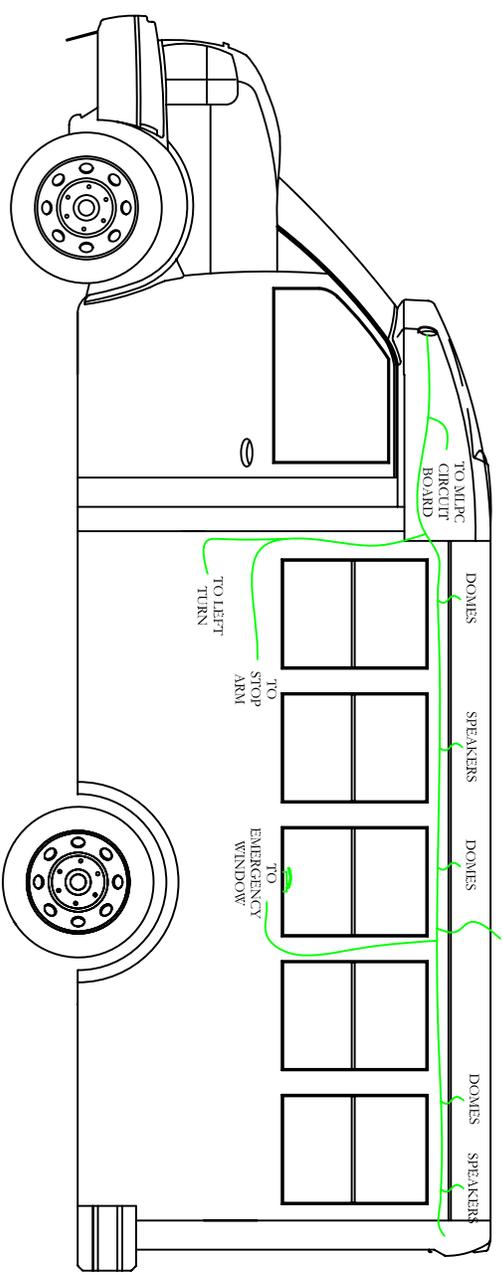
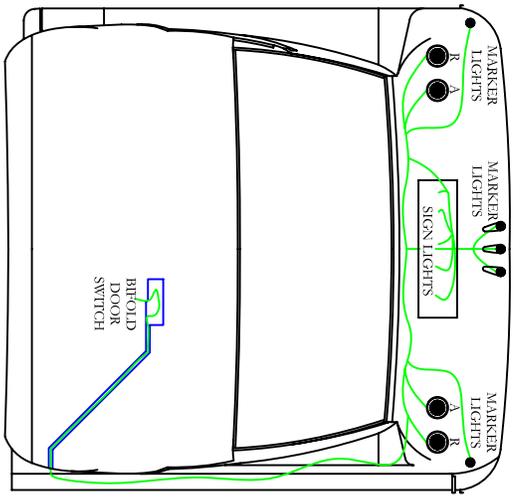


TransTech Bus Electrical Department

Harness Location	Option	Purpose	Color	Color
Rear Harness --▶	Brake	Brake	Orange	Anaranjado
		Marker Light	Brown	Marron
		Ground	White	Blanco
Rear Harness --▶	Reverse	Reverse Ground	Red White	Rojo Blanco
Rear Harness --▶	Left Turn	Left Turn	Yellow	Amarillo
		Ground	White	Blanco
Rear Harness --▶	Right Turn	Right Turn	Green	Verde
		Ground	White	Blanco
Rear Harness --▶	License Plate Light	Marker Light	Brown	Marron
		Ground	White	Blanco

THIS DRAWING CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION OF TRANSTECH BUS AND IS NOT TO BE DISCLOSED TO THE PUBLIC OR TO COMPETITORS NOR TO BE USED EXCEPT FOR EVALUATING PROPOSALS OF TRANSTECH BUS OR INSTALLING, OPERATING, OR MAINTAINING TRANSTECH EQUIPMENT UNLESS OTHERWISE AUTHORIZED IN WRITING BY TRANSTECH.

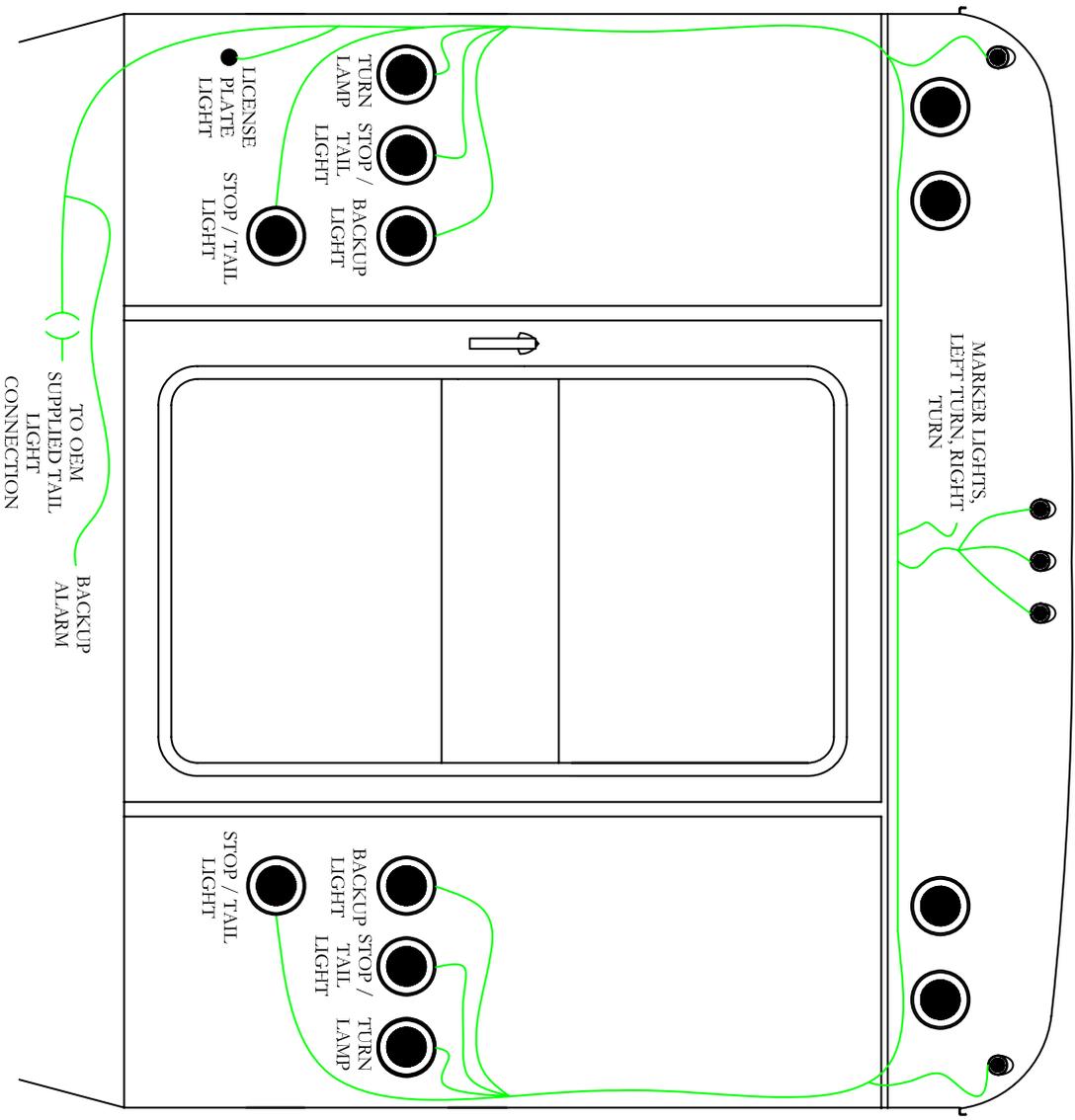
MAIN HARNNESS



K&L Trans Vehicle/Truck Light/Wireless Logo/Marking/Truck/Bus/Trailer No. 37 from	MAKE:	ALL MAKES	CHASSIS:	N / A	MODEL:	N / A	MODELED:	TJD	DATE:	07/23/2012
	PASSENGERS:	*	WHEELCHAIR:	N / A	APPROVED:	DJD & JV	DRAWN:	TJD	DRAWING #:	HARNNESS ROUTING
PUBLISHED ON: Wednesday, April 11, 2012 PATH: C:\Documents and Settings\timothyd\Desktop										

THIS DRAWING CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION OF TRANSTECH BUS AND IS NOT TO BE DISCLOSED TO THE PUBLIC OR TO COMPETITORS NOR TO BE USED EXCEPT FOR EVALUATING PROPOSALS OF TRANSTECH BUS OR INSTALLING, OPERATING, OR MAINTAINING TRANSTECH EQUIPMENT UNLESS OTHERWISE AUTHORIZED IN WRITING BY TRANSTECH.

TAIL HARNESS

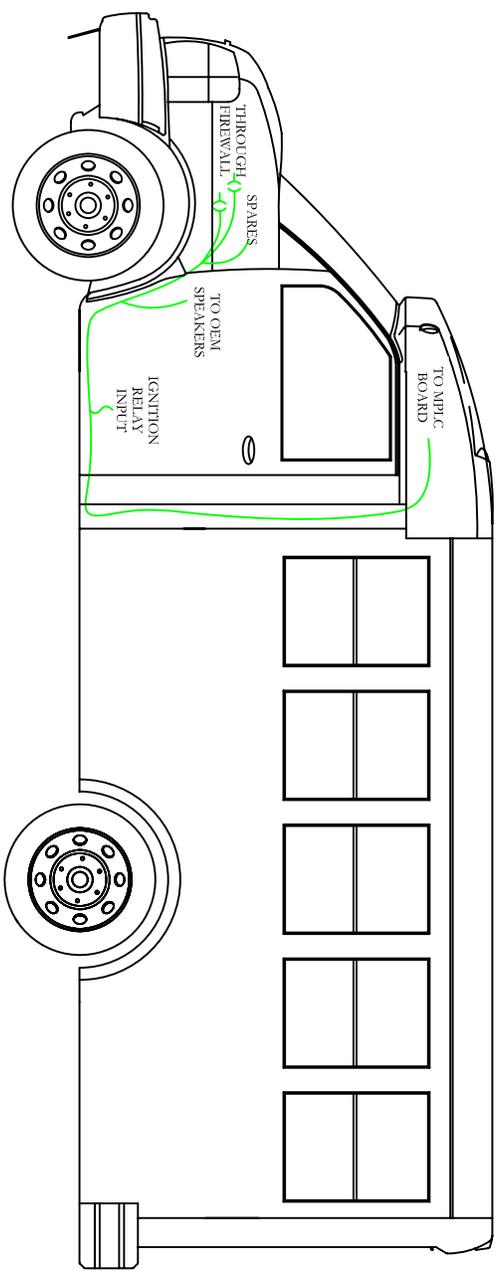
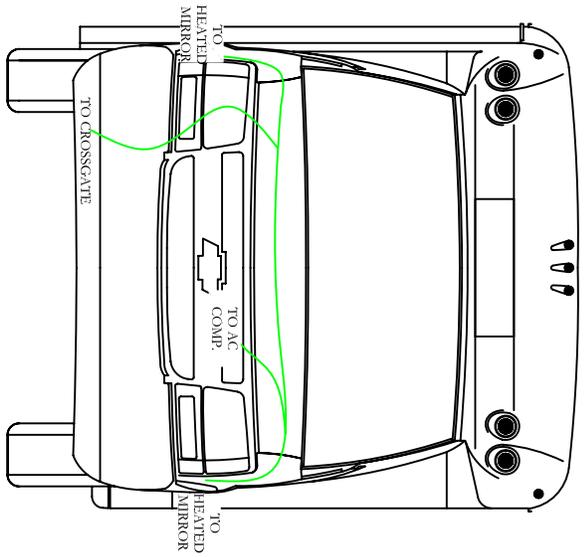
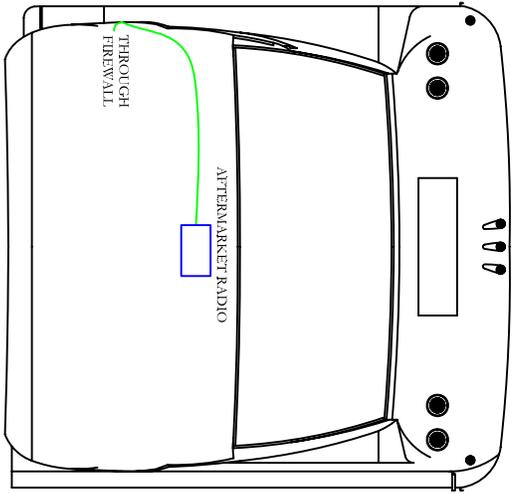


MAKE:	ALL MAKES	CHASSIS:	N / A	MODEL:	N / A	MODELED:	TJD	DATE:	07/23/2012
PASSENGERS:	*	WHEELCHAIR:	N / A	APPROVED:	DJD & JV	DRAWN:	TJD	DRAWING #:	HARNES ROUTING
PUBLISHED ON: Wednesday, April 11, 2012									
PATH: C:\Documents and Settings\timothyd\Desktop									

Mod./Drawn: **Vehicle/Drawn** Logon: **6/23/2012 11:00:00 AM**

THIS DRAWING CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION OF TRANSTECH BUS AND IS NOT TO BE DISCLOSED TO THE PUBLIC OR TO COMPETITORS NOR TO BE USED EXCEPT FOR EVALUATING PROPOSALS OF TRANSTECH BUS OR INSTALLING, OPERATING, OR MAINTAINING TRANSTECH EQUIPMENT UNLESS OTHERWISE AUTHORIZED IN WRITING BY TRANSTECH.

DASH HARNNESS



MAKE: ALL MAKES CHASSIS: N / A MODEL: N / A MODELED: TJD DATE: 07/23/2012	PASSENGERS: * WHEELCHAIR: N / A APPROVED: DJD & JV DRAWN: TJD DRAWING #: HARNNESS ROUTING	K&L Drive Vehicle Protection Logo-METRA/TransTech-28-A-100
		PUBLISHED ON: Wednesday, April 11, 2012 PATH: C:\Documents and Settings\timothyd\Desktop