NITE®

Day Cab Compact AC Split System

Installation Manual #1000178058

Bergstrom Climate Control Systems

NITE Day Cab Compact AC Split System

2390 Blackhawk Road • Rockford, IL 61072 • 815-874-7821 • www.bergstrominc.com

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Introduction

Congratulations. You have chosen the premier no-idle climate control system on the market today—the ***NITE Day Cab*** from Bergstrom.

The ***NITE Day Cab*** is a powerful 12V rechargeable DC system that keeps the compartment cool in hot weather without having to idle the truck's engine—and without a genset. It not only dramatically reduces fuel burned; it's also very environmentally friendly.

Your ***NITE Day Cab*** is a self contained, compact split A/C system that produces approximately 7,200 Btuh and has been quality engineered for years of reliable service. The system operates independently from your truck's engine using its own deep cycle batteries that are completely separated from the truck's starting batteries.

The ***NITE*** AGM deep cycle batteries are the most advanced ever—and will efficiently power the system for 4-6 hours. The batteries are then fully recharged after just 2 to 3 hours of driving.

Add it all up, and you have a revolutionary no-idle system that will save you money and fuel year after year—the ***NITE Day Cab*** from Bergstrom.

NITE® Day Cab Compact AC Split System

NOTES:

*The **NITE Day Cab** A/C system is designed to maintain a comfortable temperature inside the cab without running the engine.*

*The **NITE Day Cab** A/C unit is not designed to pull down a hot cab that has been sitting in the sun without the factory A/C running. To assist the **NITE Day Cab** unit in cooling down the cab, start the engine and run the factory A/C until desired temperature is reached. The **NITE Day Cab** unit will then maintain a comfortable temperature depending on solar load & ambient temperature.*

Subtle changes to your normal parking can help increase the run time: park in the shade when possible or park with the windshield facing the opposite direction as the sun.

Before You Start

A typical installation of the ***NITE Day Cab*** generally takes between 5 to 6 hours, although your particular situation may vary. This manual contains step-by-step installation instructions. It is divided into three categories:

- General installation
- Electrical installation
- Refrigerant charging

There are also sections on how to check your ***NITE Day Cab*** to make sure the installation was successful, a section on how to operate your ***NITE Day Cab,*** as well as wiring schematics.

If relocation or reinstallation of any preinstalled equipment is necessary for installation of the NITE Day Cab equipment - please refer to the components manufacturer's instructions or safety guidelines for proper installation.

Before you start, we highly recommend doing the following to help make your installation as easy as possible.

1. Lay out all parts and check to make sure you have all parts listed on the parts list. **Depending on truck, some hardware may not be used.** If you are missing any parts, please call 1-866-204-8570.
2. To prevent damage to compressor, keep the ***NITE Day Cab*** unit in an upright position at all times. If unit is tipped, place back in upright position for a minimum of 6 hours prior to running.
3. Check the list of tools needed for installation and make sure you have all of them. Keep all tools within easy reach.
4. Look through the whole installation manual to get an understanding of the order in which components are installed.
5. Make sure you have good lighting and enough space to work in.
6. You may want to get an assistant to help you to reduce the number of times you have to climb in and out of the cab.
7. Make sure you wear all appropriate safety equipment.

Parts List

Bergstrom Part #	Part Description	Quantity
1000174246 NITE Day Cab Kit		
1000158520	EXTERNAL CONDENSER UNIT	1
1000158525	INTERNAL UNIT	1
1000178070	WARRANTY POLICY	1
1000178073	OPERATION CARD	1
585511	WARRANTY REGISTRATION CARD	1
1000174247	**NITE Day Cab Power Kit**	*See below*
1000173386	*HARNESS, DAYCAB COND*	*1*
1000173812	*HARNESS, DAYCAB SEPARATOR*	*1*
1000174251	*FUSE, MEGA 100A YELLOW*	*1*
1000174286	*FUSEHOLDER, MEGA BOLT-ON*	*1*
652544	*SEPARATOR, 300 AMP*	*1*
1000049325	*ENCLOSURE, ELECTRICAL*	*1*
670136	*5/16 RING TERMINAL 4 GA*	*2*
670137	*TERMINAL RING 3/8 4 GA*	*14*
B220029	*.38 RING TERMINAL*	*1*
651462	*TUBING HEAT SHRINK*	*17*
B300642	*WIRE LOOM .413 ID X 240.00 IN*	*70 FT*
B360113	*TIE-PLASTIC*	*25*
1000177345	**NITE Day Cab Power Cable Kit**	*See below*
660706	*ASSY,WIRE,BATT.CABLE 5300MMBLK*	*1*
660707	*ASSY,WIRE,BATT.CABLE 5000MMRED*	*1*
1000173480	*HARNESS, DAYCAB POWER 4 GA*	*1*

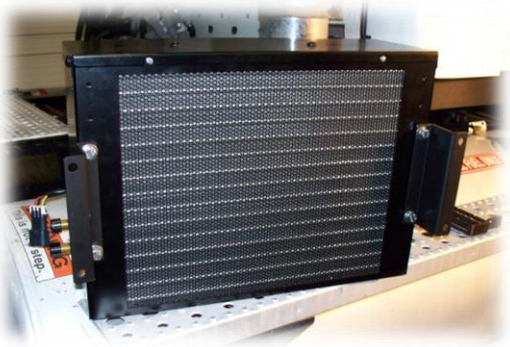
1000174291 Installation Kit		
1000133405	MOUNTING BRACKET	2
1000134217	REAR ADJUST BRACKET	2
1000174296	FLOOR MOUNT BRACKET	2
1000176988	NO 6 AIR-O-CRIMP HOSE 7 FT	1
1000176989	NO 8 AIR-O-CRIMP HOSE 7 FT	1
1000021997	NO 6 90 FEM O-RING FITTING	2
1000022005	NO 8 90 FEM O-RING	1
1000022164	NO 8 90 FEM O-RING FITTING W/HS	1
B300511	DRAIN HOSE .501D X 72.0 IN	6
454556	DUCT MOUNT SCREEN	1
1000174302	GROMMET, HOSE GUARD 2.8 IN	1
600283	SCREW, SELF DRILL	13
911-C041	SCREW, 5/16-18 X 1-1/4 HXHD	4
913-C004	NUT, 5/16 HEX SS	4
912-C010	WASHER, FLAT 5/16 SS	14
912-C014	WASHER, LOCK 5/16 SS	4
1000173100	SCREW, M8-1.25 X 20 HX HD SS	4
1000173101	WASHER, M8 SPLIT LOCK SS	4
600059	SCREW, M6 X 16MM TORX HD 9 X 2044	2
1000173102	WASHER, M6 SPLIT LOCK SS	6
1000173103	WASHER, M6 FLAT	6
1000173097	SCREW, ¼-20 X 1” HX HD SS	4
913-C003	NUT, 5/16 HEX SS	4
912-C008	WASHER, FLAT ¼ SS	8
912-C013	WASHER, LOCK ¼ SS	4
1000178016	INSTALL MANUAL CD	1

Tools Required

1) Drill Bit Set
2) 3” Hole Saw
3) Electric/Air Drill
4) Screwdrivers/Assorted Bits (Flat Head & Phillips Head)
5) Impact Gun
6) Torx Head (T30) Bit
7) Metric Wrenches
8) SAE Wrenches
9) 1/4″, 3/8″ Drive Ratchets
10) SAE Socket Set
11) Metric Socket Set
12) Wire Cutters
13) Terminal Crimpers
14) Wire Strippers
15) Razor Knife
16) Electrical Tape
17) Cable Cutters
18) #4 Professional Grade Cable Crimpers
19) Cable Strippers
20) Work Light
21) Torque Wrench up to 50 in/lbs
22) U-barrel Crimper

1 **Prepare the Work Area**
Set up your work light; clear the area of loose items. Prepare condenser by bolting both support brackets to the rear of the unit using M8 bolts and lock washers. These brackets can be facing in or out to aid in installation.

2 **Condenser unit ready to install**



3 **Choose the best location for the condenser unit. Position the condenser unit height so that the bulkhead connectors will be higher than those on the internal unit.**

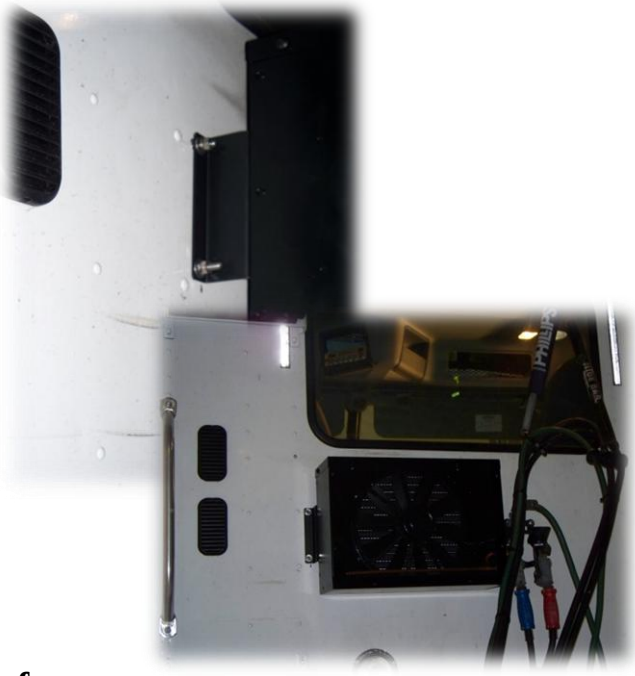
NOTE: Do not mount condenser on frame rail of truck or damage could occur and void all warranty.

4 **Position condenser and mark the holes. When possible, locate the support on or near the internal structural support of the cab.**

5 **Drill Holes through cab <u>sheet metal only</u>. Do not drill through upholstery.**

6 **Remove upholstery fasteners. Reach between wall and upholstery to insert 5/16″ bolts with flat washers through cab wall for condenser mounts.**

7 **Install nuts, lock washers, and flat washers to secure condenser assembly to rear of cab.**



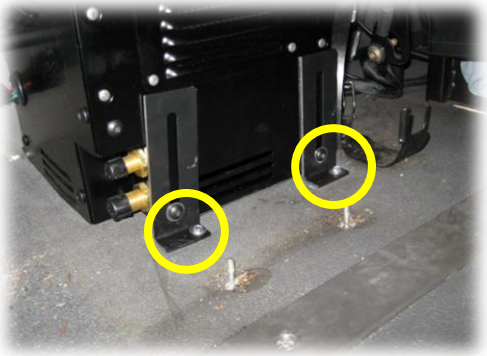
8 **Clear the center along the back wall of the truck. If necessary, remove center console and all items necessary for installation. Photo A shows approximate location.**

9 **Prepare inside unit for installation. Bolt the upper and lower support brackets to the unit using existing torque bolts, adding flat and lock washers but do not tighten.**

10 **Position unit against wall, centered and level. Mark hole location. Tip unit slightly forward to allow access to install the support mesh behind upholstery (see photo A). In some installs this mesh may have to be cut into two pieces. Install self drilling screws through holes in bracket. Install screws through upholstery and into the mesh support. Tighten carefully.**
Caution: Be aware of screw location to prevent personal injury.

11 **After the brackets are secure, reinstall the upholstery. Make sure the unit is firm against the rear wall of the cab and tighten the bolts on the side of the unit.**

12 **After top of unit is secure to the wall, secure the bottom with self drilling screws. Now tighten the torque bolts in each bracket**



13 **Locate position for hoses, drain tube and cables. Entrance must be lower than the drain tube on the side of the unit. Check behind cab for obstructions before drilling. Drill a locator hole through the upholstery and the cab wall with a small bit.**

14 **Using the locator hole, carefully drill a 3 inch hole through the rear cab wall. USE CAUTION: *There could be hidden wires. Do not drill completely through the upholstery without checking first!***

15a **Preassemble the two refrigerant lines by crimping two 90˚ connectors without charge ports to one end of each hose. The hose end should be made square to the hose length. These crimped ends will connect to the inside evaporator unit.**

15b **Assemble the clamp assembly all the way onto the hose with the locator tab touching the hose.**

15c **Assemble the fitting into the hose until the hose touches the bead and locator tab on the fitting.**

15d **Use manual crimping pliers to crimp each clamp separately.**

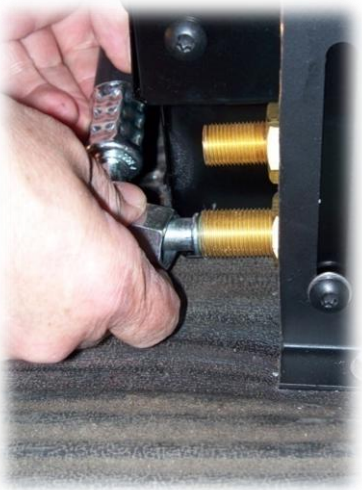
16 **Assemble Day Cab power harness. Place protective loom over both cables.**

17 **Assemble the refrigerant hoses, drain tube, power cable assembly and condenser wiring harness through the provided flanged grommet. Make sure you have the correct end of the condenser harness and refrigerant lines going inside the cab.**

18 **Install this group through the rear cab wall.**

19 **Pull enough through the wall to easily connect all items to the unit**

20 **Connect the refrigerant lines**



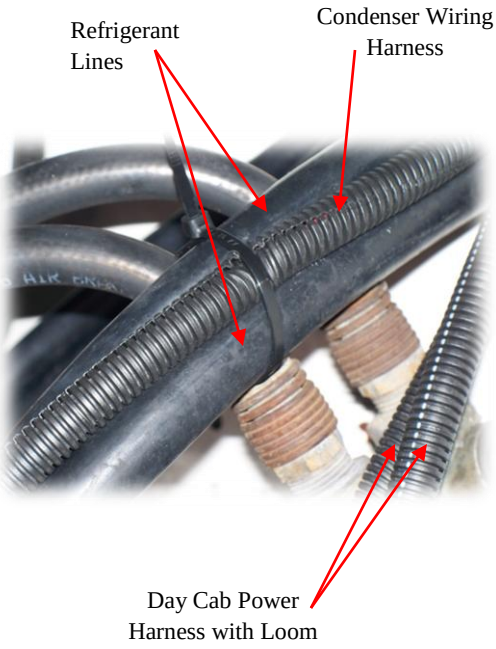
21 **Now connect the wiring harnesses. When connected secure all with cable ties.**

22 **Install flanged grommet to rear wall of cab using self drilling screws. Fill any void area around hoses with black RTV silicone.**

23 **Connecting the refrigerant lines to the condenser. Cut lines to desired lengths. Crimp 90° ends using the same process as in step 15A, measure and record length of hose that has been cut off. Subtract this length from the original 7 feet of hose that is in the kit. This will give you the length of hose used. Refer to table on page 27 for charge level determined by hose length used.**

24 **Connect the wiring harness to condenser unit.**

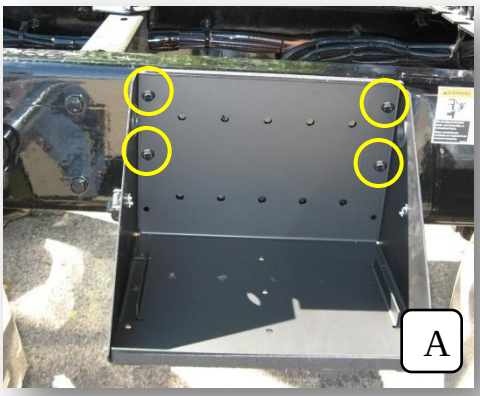
25 **Now, secure all hoses, wires and cables with cable ties.**

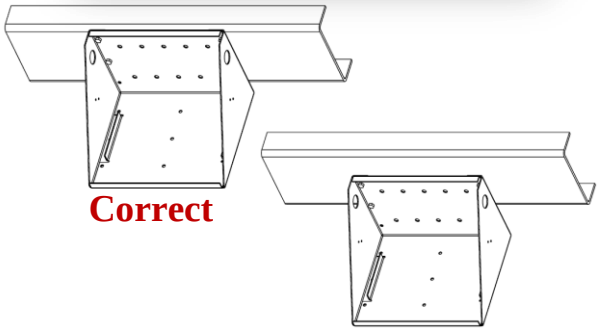


NOTE: Before performing any wiring, Disconnect Truck Batteries.

1

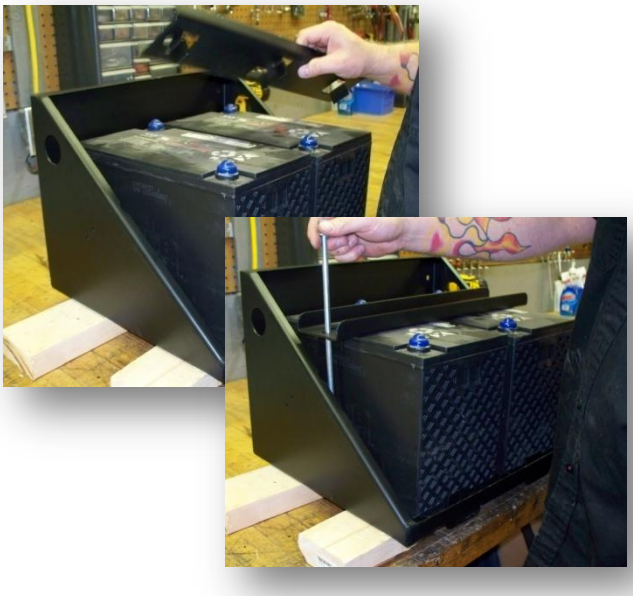
***NITE Day Cab* Battery Box Installation**
Locate the battery box on the frame as close as possible to the sleeper *NITE Day Cab* unit. When positioning the box, always keep the top of the box as close to the top of the frame rail as possible – Some manufacturers recommend no drilling within 2″ of top or bottom of frame rail. Check truck manufacturer guidelines prior to drilling. Using box as template, mark and drill a minimum of 4 holes. Always use the holes in the rear outer corner area where you have double walled steel. Of the 3 holes available on each side of the outer most edge of box, choose the top and center holes on each side (see photo A). Drill frame rail using ½″ HS bit. Install box with ½″ grade 8 bolts and hardware provided. Tighten securely.



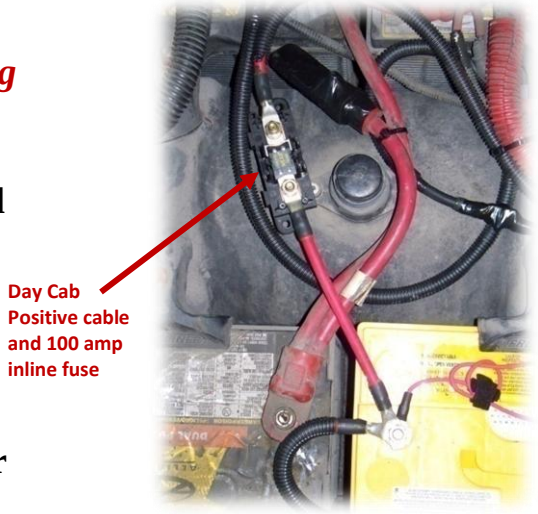


2

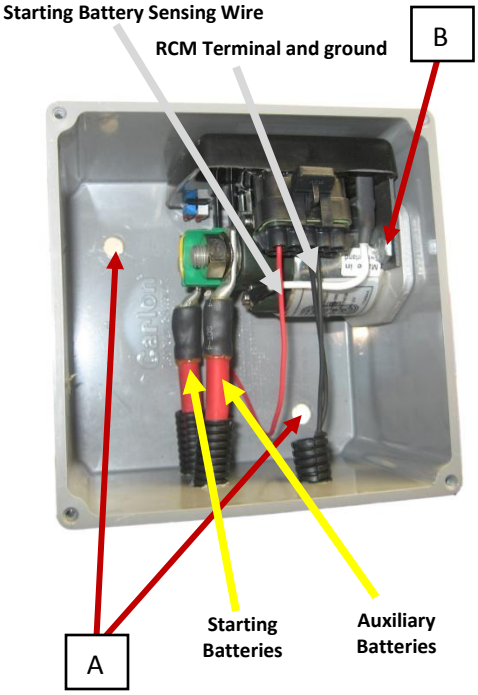
Attaching Hold-down Brackets
Set battery or batteries side-by-side in the battery box and place a hold-down bracket on top, with the u-channel facing up. Take two 5/16″ bolts, place a 5/16″ flat washer on each, and then put the bolts through the outer holes. Tighten each bolt securely from underneath using the supplied nuts and washers.



3 **Route *NITE Day Cab* power cables to auxiliary battery location.** ***Before connecting Day Cab positive cable make sure blower control switch is in off position.*** **Install 100 amp fuse between Day Cab power cable and AGM positive battery post as shown. Connect Negative Day Cab power cable directly to AGM battery negative post.** ***Do not tighten posts at this time.***



4 **Mount separator in battery compartment or in supplied 6 x 6 x 4 enclosure. Mark and drill two ¼″ holes in the back of the box (A) for mounting to the truck. DO NOT USE THE OUTSIDE TABS FOR MOUNTING THE BOX!! Position the separator on the inside of the box as shown. Mark and drill 2 holes (B) to mount the separator, attach with ¼″ bolts/washers/lock nuts. Also drill 3 holes in the bottom of the box, directly under the separator posts for the battery cables and ground wire. See photo for approximate locations. Now using the ¼″ bolts, nuts and washers provided, mount the box to the truck and install the separator.** NOTE: ***The separator ties into the truck's starting batteries and gives charging priority to the starting batteries and then charges the NITE batteries. The NITE batteries begin charging after the starting batteries reach 13.2 volts.***



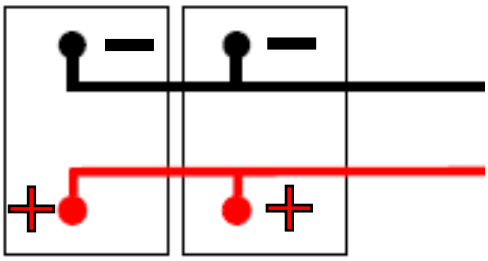
5 **The batteries are wired in series for 6V or parallel only for 12V. See diagrams on pages 19 or 33 and 34.**

NOTE: Before proceeding – Make sure the NITE Day Cab System control switch is turned off. Disconnect the truck batteries.

6

Directions for Wiring A 12-Volt Parallel, 2Battery
Parallel is all positives connected together and all negatives connected together.

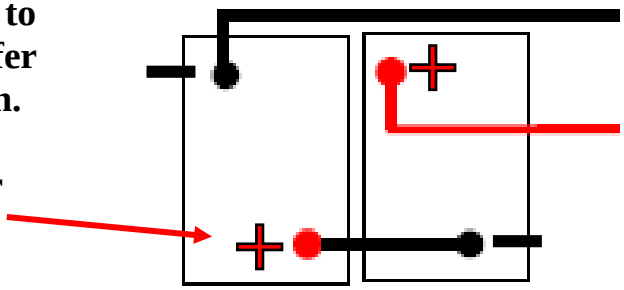
Step 1: For the positive (+) to positive (+) parallel connections measure and cut pieces of red cable to length. Attach a ring terminal to each end using a professional grade crimper. Place heat shrink around each terminal and heat. Then loom it. Use these cables to connect all positive (+) terminals on both *NITE* batteries.



Step2: For the negative to negative connections repeat procedure using black cables. Then loom it. Connect all negative (-) terminals of both *NITE* batteries together.

Directions for Wiring A 6-Volt Series, 2 Battery

Step 1: Assemble one short battery cable. This cable connects the positive (+) of one battery to the negative (-) of the other to create a set or bank. We refer to this as a series connection.



DO NOT connect any other cables or wires to these terminals.

7 **Connect Separator to the Truck Batteries**

Add ring terminals to ONE END of the negative and positive cables. Place protective looms over cables leaving about an inch of the cables exposed for proper identification. DO NOT CUT cables at this time…you will do that in a later step.

8 **Run Cables to Truck Batteries**

Attach the positive cable to the main battery terminal of the battery separator along with the red wire from the harness plug. Attach the negative cable to the negative terminal on the *NITE* batteries (see diagram on page 33 or 34). Zip tie the cables together every 1 ½ feet. Run the cables to the truck batteries.

9 **Attach Cables to Truck Batteries**

Cut the cables to the proper length and crimp ring terminals. Attach negative side to truck battery. Zip tie all wires to secure them in place.

DO NOT CONNECT POSITIVE TRUCK BATTERY CABLE YET. We will connect this cable in step 12, page 21.

See diagrams on pgs 33 - 34

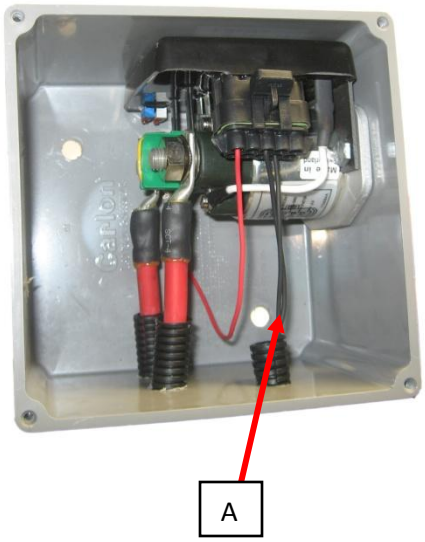
10 **Connect NITE Batteries to Separator**

Using red battery cable, measure and cut to proper length. Crimp ring terminals and heat shrink install loom. Connect one end to the most appropriate positive (+) terminal of the *NITE* batteries. Connect the other end to the auxiliary terminal of the battery separator.

See diagrams on pgs 33 - 34

11 **Grounding the Separator**

Connect the 16 gauge black wire (A) from the harness plug to the negative battery terminal of either the truck or *NITE* batteries. Without proper grounding the system will not recharge batteries correctly.



12 **Now connect positive separator cable at truck batteries. Recheck and tighten all battery and separator connections. Zip tie cables where necessary. Your wiring should look like the diagram on page 33 or 34.**

This completes the electrical section of the installation.

CONNECTING THE SYSTEM

WARNING!

Before doing any of the work below, be aware of the dangers involved. Working with refrigerant could lead to serious personal injury.

CAUTION

The NITE Day Cab uses POE lubricant in the refrigerant system. POE oils absorb atmospheric moisture very quickly. Never leave POE oil exposed to air for a prolonged time. Tightly reseal the system after each charge or service.

CAUTION

Do not add oil. NITE Day Cab uses special POE oil which is different than standard PAG oil in most AC systems. Addition of PAG oil to the system will greatly reduce performance and void NITE Day Cab warranty.

NOTE **–** Although your service equipment may appear physically different from the equipment shown here, the function of the equipment used to perform each service procedure is similar. If you are performing these service procedures using service equipment different from that shown, refer to the manufacturer's instructions supplied with that equipment.

Typical Equipment Hookup for Servicing the NITE Day Cab System

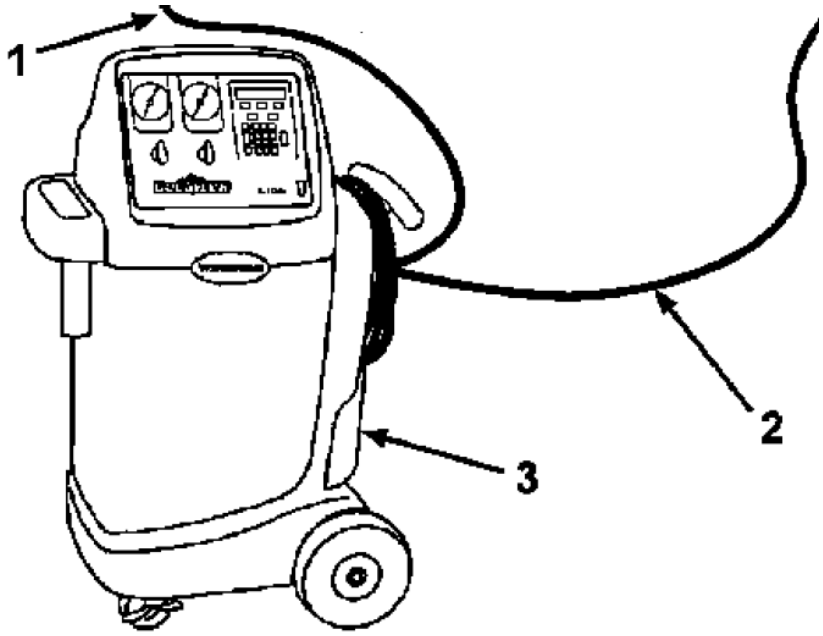
1. Remove the protection cap from service port. The NITE Day Cab system uses smaller lines than conventional AC systems. In order to simplify the installation and charging only one service port has been given for the system.

   On the recovery station and hose fittings, verify that all valves are closed. The valves at the recovery station must be set to the **CLOSED** position. The valves at the quick-disconnect fittings must be set fully counterclockwise (CCW).

1
LOW PRESSURE HOSE (BLUE)

2
HIGH PRESSURE HOSE (RED)

#3
RECOVERY / RECYCLING / CHARGING STATION



2. Connect the recovery station to the system as follows:
   a. Connect the red hose to service port located on the compressor-to-condenser line of the Day Cab outdoor unit.
   b. Open (turn CW) the valves on the quick-disconnect fittings connected to the service ports on the units.
3. Work may now begin on the air conditioning system.

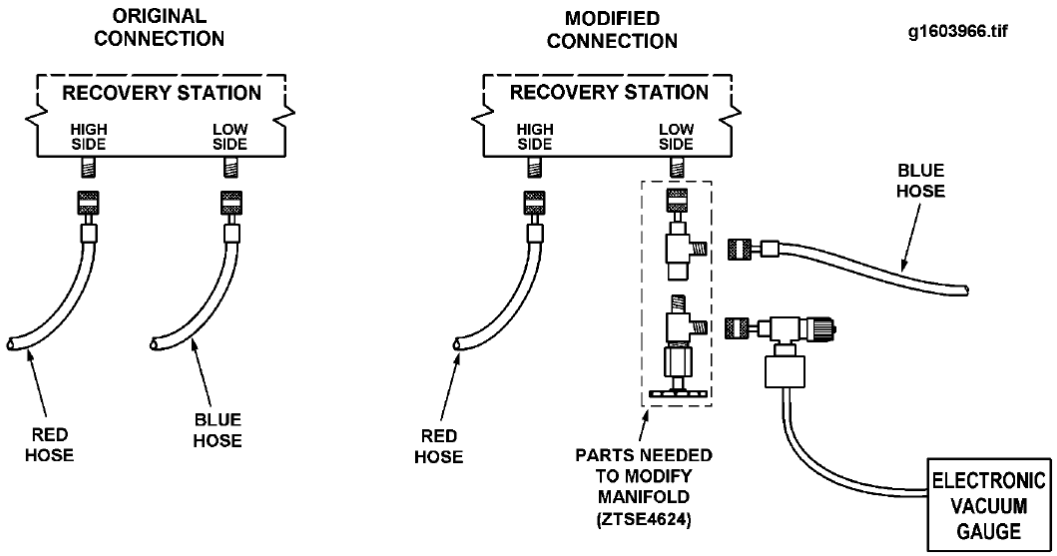
EVACUATING THE SYSTEM

EVACUATING THE NITE DAYCAB SYSTEM SERVICE PROCEDURES FOR R-134A

Whenever the air conditioning system has been installed, the system must be completely evacuated of air and moisture before being charged. After evacuation, the system vacuum should measure between 750 and 1000 microns.

1. On the recovery station and hose fittings, verify that all valves are closed. The valves at the recovery station must be set to the CLOSED position. The valves at the quick-disconnect fittings must be set fully counterclockwise (CCW).
2. Connect the electronic vacuum gauge to the recovery station, at the vacuum manifold, using a valve and 'T' fittings.
3. Connect the recovery stations red hose to the service port located on the NITE Day Cab system.
4. On the red hose, open the valves on the quick-disconnect fittings (turn the knobs fully CW).
5. On the recovery station, set both hand valves to the RECOVERY/VACUUM position.
6. On the recovery station, turn on main power switch and press the VACUUM button.
7. After the low pressure gauge on the station shows that vacuum is being established in the system, continue to operate the vacuum pump for fifteen minutes.
8. After 15 minutes, set both valves on the recovery station to the CLOSED position, and observe low side gauge for one minute. The gauge should not indicate a rise of more than 2 inches-Hg. If the gauge rises more than 2 inches-Hg in one minute, the system has a leak, which must be repaired

The valve for the electronic vacuum gauge must be in the closed position until instructed to open. If the valve is open during system charging, excess pressure may damage the electronic vacuum gauge.



9. If there are no leaks:
   A. Set both hand valves on the recovery station to the RECOVERY/VACUUM position and press the VACUUM button.
   B. Open the valve connecting the electronic vacuum gauge to the recovery station low side line.
   C. Continue to operate the recovery station vacuum pump until the system has pulled a vacuum of 750 – 1000 microns as measured by the electronic vacuum gauge (15 minutes minimum).
   D. Close both hand valves on the recovery station, and the valve connecting the electronic vacuum gauge to the recovery station low side line.

10. The A/C system is ready to be charged.
    NOTE: The full amount of refrigerant oil has already been added to the system, **DO NOT ADD OIL** when charging the NITE Day Cab system.

NOTE: DO NOT disconnect the recovery/recycling/charging station from the A/C system before charging the system.

CHARGING THE NITE DAYCAB SYSTEM

WARNING!

Before doing any of the work below, be aware of the dangers involved. Working with refrigerant could lead to serious personal injury.

CAUTION

Use only new or clean recycled R-134a refrigerant; not any of the so called "direct replacement" refrigerants. Use of equipment dedicated for R-134a is necessary to reduce the possibility of oil and refrigerant incompatibility concerns.

CAUTION

When charging the A/C system, the refrigerant tank must be kept upright. If the tank is not in the upright position, liquid refrigerant may enter the system and cause compressor damage.

NOTE **–** Although your service equipment may appear physically different from the equipment shown here, the function of the equipment used to perform each service procedure is basically the same. If you are performing these service procedures using service equipment different from that shown, refer to the manufacturer's instructions supplied with that equipment.

NOTE **–** If recycled refrigerant is to be used, follow the instructions supplied with the recycling equipment to purge the air from the refrigerant before charging the system.

Perform the charging procedure, using new or recycled refrigerant, only after the following actions have been completed:

- System components completely installed
- System completely evacuated

CAUTION

If the equipment being used adds system refrigerant oil during the evacuation/charging procedure, you must first DISABLE this feature. Follow the instructions furnished with the recovery station, or refrigerant oil injector tool, to disable this feature.

DO NOT ADD OIL TO THE NITE DAY CAB SYSTEM

The recovery station red (discharge) hose should still be connected as it was during the evacuation operation.

CAUTION

Due to the density of R-134a, the amount of refrigerant required to charge a typical air conditioning system has been reduced. Overcharging the system will result in excessively high head pressures during operation and may damage the compressor.

1. Determine the amount of refrigerant needed to charge the A/C system.

   7.0 Feet of hose: 28 oz. (1.75 lbs.)

   \+ 3.5 Feet of hose + 4 oz. (+0.25 lbs.)

   − 3.5 Feet of hose − 4 oz. (−0.25 lbs.)

   Above shows tested charge levels. If your installation calls for something other than what is listed, adjust your charge level accordingly. When in doubt use the lesser charge level. Following the instructions provided with the recovery station, set the recovery station to charge the system with the specified amount of refrigerant.

2. On the recovery station, set the low side valve to CLOSED, and the high side valve to CHARGE.

3. Press the CHARGE button to start the charge procedure. When the system is fully charged, the recovery station will turn off.

4. Complete the charging procedure by setting both hand valves on the recovery station to the CLOSED position.

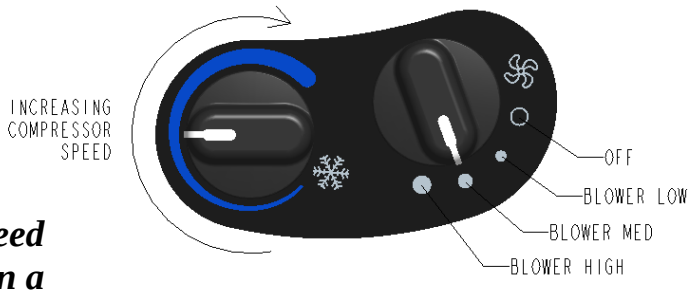
5. Close valve on hose at condenser, then disconnect the red hose quick-disconnect fitting from the NITE Day Cab service port.

6. Install the protective cap on the NITE Day Cab service port fitting.

Now that you've completed installation, it's time to check the system to make sure everything is working properly. To help you do that, we've prepared a brief description of how the *NITE Day Cab* operates, and several checklists to help you make sure everything is in working order.

1. System and controls overview
The *NITE Day Cab* has 2 controls, a 3 position evaporator blower and a variable compressor speed control. The evaporator blower control changes the blower speed to Low, Medium, or High. The variable compressor speed control changes the compressor speed to better maintain the cab climate. A higher compressor speed will result in a higher Btuh output from the system.

Note 1: Operating the NITE Day Cab at maximum compressor speed will consume the highest amount of battery power and will reduce overall run time. A higher evaporator blower speed will also consume more battery power than a lower speed.



Note 2: Using a reflective windshield reflector will help the Day Cab system maintain a comfortable climate.

Note 3: Low voltage cutout – unit will turnoff once NITE batteries are below 11.3 volts. Also will not start if voltage is too low

Component	Function	How to check it
Blower (evaporator)	**Blows cold air into the cab through the top ducts. This is a 100% recirculating system with 1 air intake located on the front of the NITE *Day Cab* unit.**	Switch the *NITE Day Cab* control to LOW (Position 1). You should feel air coming from the louvers. Next, switch the *NITE Day Cab* control to MEDIUM (Position 2). You should feel an increase in airflow coming out of the louvers. *Note: Make sure nothing is blocking the recirculation air intake opening on the NITE Day Cab unit.*
Fan (condenser)	**The condenser unit is mounted on the back of the cab. The fan will move air across the condenser coil to cool the refrigerant. All heated air is kept outside the truck.**	Go behind the cab and make sure air is flowing in and out of the condenser unit when it is operating. The exhaust air is usually 10 or more degrees warmer than ambient air.
Compressor	**Compresses and pushes the refrigerant through the *NITE Day Cab* unit refrigerant loop.**	The best way to check that the compressor is running is when the unit is being switched on and off. You should notice a slight change in sound and vibration when the compressor is operating. Checking the amperage draw of the unit will also indicate compressor operation.

3. Electrical and temperature checklists

Use the following checklist to check that your *NITE Day Cab* is operating within the correct electrical and temperature ranges.

Electrical power

3.1 Check the *NITE Day Cab* unit's voltage. On the power supply cables (red and black cables) located close to the *NITE Day Cab* unit, there is a black connector from which the voltage can be read. When the *NITE batteries* are fully charged you should read between 12.5 and 12.7 volts.

3.2 Check the *NITE Day Cab* unit's current. Set both of the *NITE Day Cab* controls to HIGH, use a clamp-on inductive ammeter to measure the current on the *NITE Day Cab* unit power supply RED cable. You should read approximately 50 amps depending on ambient temperature. On a hot day you should read higher amps, on a cool day, lower amps.

Temperature

3.3 Air temperature at louvers

First, precondition your sleeper compartment. Turn the *NITE Day Cab* unit control on and set to high. After the unit has operated for a minimum of 20 minutes, check your *NITE Day Cab* Louver temperatures. You should see a temperature difference of 13-25 degrees from the outside temperature. Please keep in mind High solar loads and high humidity will vary the performance of the unit.

3.4 Condenser outlet temperature

With the *NITE Day Cab* running in HIGH, locate the condenser unit on the back of the cab. Measure the temperature of the air from the outlet side. It should be approximately 10 or more degrees warmer than the ambient air.

Separator checklist

4.1 Check to make sure all electrical connections are tight and secure.

4.2 Check to ensure all electrical components/connections have been installed according to instructions and diagrams.

4.3 Check voltage with engine OFF

First, check that the voltage on the TRUCK batteries is the same as the voltage on the separator (use the ground terminal to check separator voltage). Both voltages should be approximately 12V.

Next, check that the voltage on the *NITE Batteries* is the same as the voltage on the separator (use the ground terminal to check separator voltage). Both voltages should be approximately 12V.

4.4 Check voltage with engine ON

With the engine ON, check the voltage at the truck batteries. It should be higher than when the engine is OFF (>13V). Next, wait for the truck batteries voltage to reach at least 13.2V. You may need to increase the engine RPM to raise voltage. At 13.2V, the separator should close and start charging the *NITE Batteries*—you should hear the separator make an audible "click".

Now check the voltage of the *NITE Batteries*. It should be higher than the voltage when the engine is OFF.

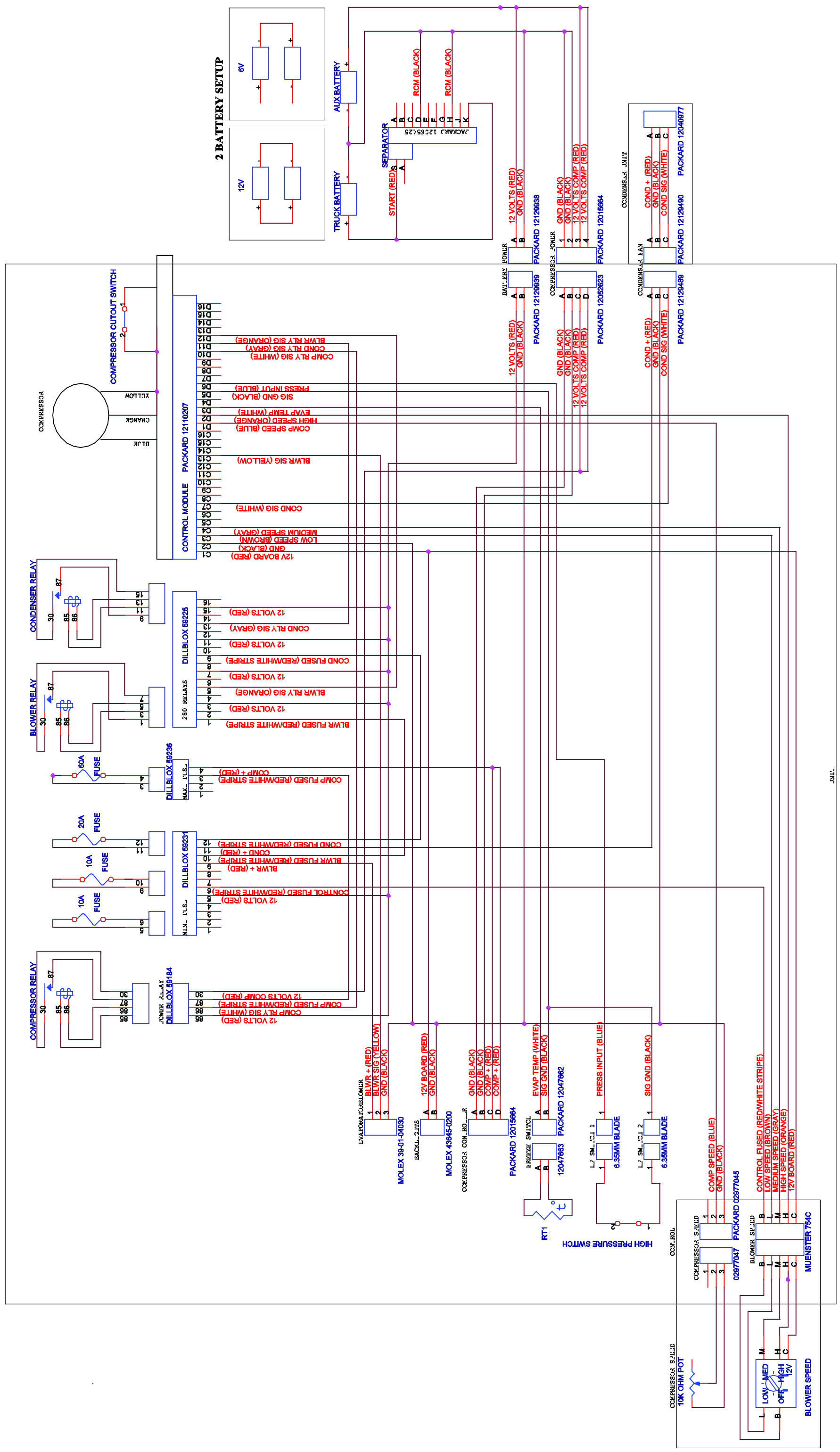
You can double check that the separator is allowing the *NITE Batteries* to charge by measuring the amps going to the *NITE Batteries* using a clamp-on inductive ammeter. Place it on the 4 gauge cable that connects the separator to the *NITE batteries* positive terminal. It should read >0 amps.

NOTE:

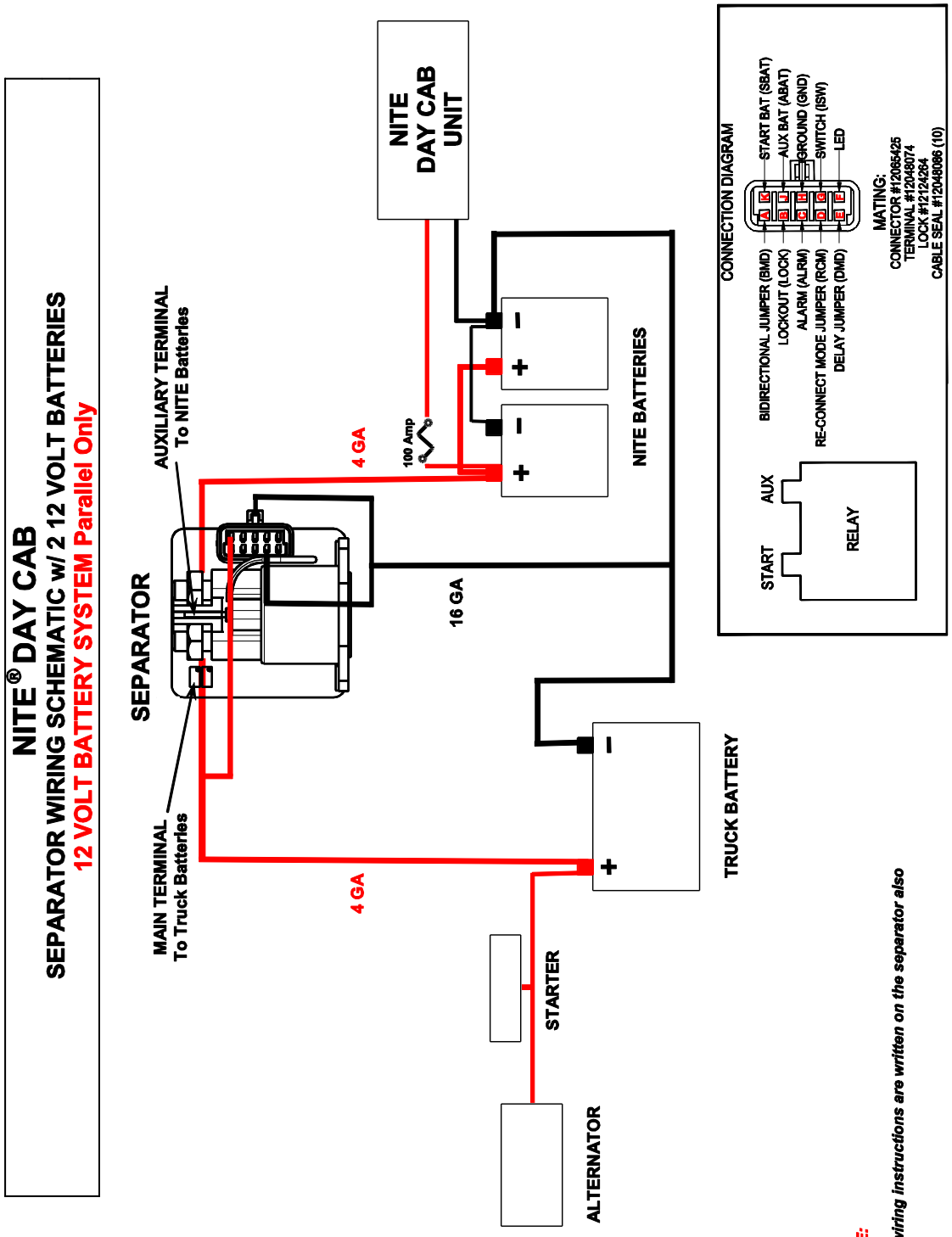
Older starting batteries will change time needed to charge *NITE Batteries* and may cause decrease in runtime.

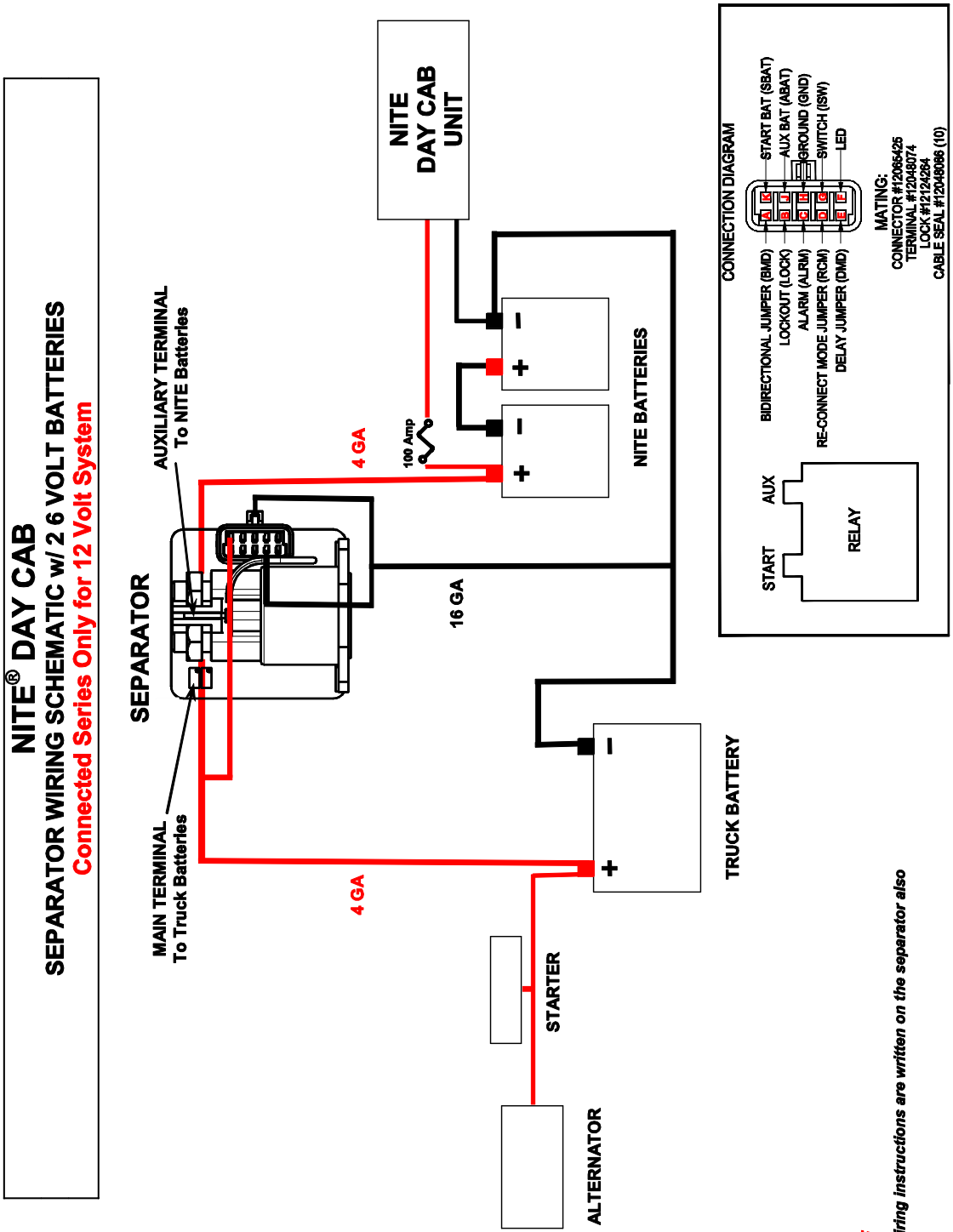
Old batteries do not hold charge long enough requiring alternator to continuously charge starting batteries.

Separator looks for 13.2 volts on start batteries prior to charging *NITE Batteries*.



2 BATTERY SETUP
12V
6V
TRUCK BATTERY
AUX BATTERY
SEPARATOR
COMPRESSOR CUTOUT SWITCH
CONTROL MODULE
PACKARD 12110207
CONDENSER RELAY
BLOWER RELAY
COMPRESSOR RELAY
DILLBLOX 59225
DILLBLOX 59236
DILLBLOX 59231
DILLBLOX 59184
HIGH PRESSURE SWITCH
RT1
MUENSTER 754C
BLOWER SPEED
10K OHM POT


NITE® DAY CAB
SEPARATOR WIRING SCHEMATIC w/ 2 12 VOLT BATTERIES
12 VOLT BATTERY SYSTEM Parallel Only
NITE DAY CAB UNIT
SEPARATOR
AUXILIARY TERMINAL
To NITE Batteries
MAIN TERMINAL
To Truck Batteries
4 GA
100 Amp
16 GA
NITE BATTERIES
TRUCK BATTERY
STARTER
ALTERNATOR
CONNECTION DIAGRAM
START BAT (SBAT)
AUX BAT (ABAT)
GROUND (GND)
SWITCH (ISW)
LED
BIDIRECTIONAL JUMPER (BMD)
LOCKOUT (LOCK)
ALARM (ALRM)
RE-CONNECT MODE JUMPER (RCM)
DELAY JUMPER (DMD)
MATING:
CONNECTOR #12065425
TERMINAL #12048074
LOCK #12124264
CABLE SEAL #12048086 (10)
START
AUX
RELAY
NOTE:
The wiring instructions are written on the separator also


NITE® DAY CAB
SEPARATOR WIRING SCHEMATIC w/ 2 6 VOLT BATTERIES
Connected Series Only for 12 Volt System
NITE DAY CAB UNIT
AUXILIARY TERMINAL To NITE Batteries
SEPARATOR
MAIN TERMINAL To Truck Batteries
4 GA
100 Amp
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NITE BATTERIES
4 GA
STARTER
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TRUCK BATTERY
CONNECTION DIAGRAM
START BAT (SBAT)
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GROUND (GND)
SWITCH (SW)
LED
BIDIRECTIONAL JUMPER (BMD)
LOCKOUT (LOCK)
ALARM (ALRM)
RE-CONNECT MODE JUMPER (RCM)
DELAY JUMPER (DMD)
MATING:
CONNECTOR #12066425
TERMINAL #12048074
LOCK #12124284
CABLE SEAL #12048086 (10)
START
AUX
RELAY
NOTE:
The wiring instructions are written on the separator also