



# BRAKE PRO



## OPERATIONS MANUAL



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# **I. INTRODUCTION TO THE BRAKE PRO X-SERIES**

Congratulations on the purchase of your Advantage Engineering BRAKE PRO.

The BRAKE PRO is a technologically advanced fluid exchanger that allows convenient, quick, thorough, and accurate brake fluid exchanges.

The high flow rate of the BRAKE PRO, ease of use, and ability to address up to four (4) brake bleeders simultaneously allows technicians the opportunity to perform a complete brake fluid service quickly.

The BRAKE PRO extracts brake fluid from the master cylinder, allows refill of the master cylinder with new brake fluid, and pressurizes the master cylinder in coordination with opening/closing the brake bleeders to allow removal of old brake fluid. This process effectively expedites the removal of old brake fluid while minimizing the opportunity for air to enter the brake system.

Recommended by most manufacturers, brake fluid service should be performed periodically and at specified intervals to maintain your vehicle's braking efficiency.

## II. SAFETY INFORMATION

### 1.01 IMPORTANT SAFETY NOTICE

For your safety, read this manual thoroughly before operating your ADVANTAGE BRAKE PRO system. Your ADVANTAGE BRAKE PRO system is intended for use by properly trained, skilled professional automotive technicians. The safety messages presented below and throughout this manual are reminders to the operator to exercise care when using this unit. Before using your ADVANTAGE BRAKE PRO system, always refer to and follow the safety messages and applicable service procedures provided by the manufacturer of the vehicle being serviced.

- **Read All Safety Instructions**

Read, understand and follow all safety messages and instructions in this manual. Safety messages in this section of the manual contain a signal word with a three-part message and, in some instances, an icon.

- **Signal Words**

The signal word indicates the level of the hazard in a situation:



### **DANGER**

*Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.*



### **WARNING**

*Indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury to the operator or to bystanders.*



### **CAUTION**

*Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.*

### **IMPORTANT**

*Indicates a situation which, if not avoided, may result in damage to the ADVANTAGE BRAKE PRO system or the vehicle being serviced.*

- **Safety Messages**

Safety messages in this section contain three different type styles:

- Normal type states the hazard.
- **Bold type** states how to avoid the hazard.
- *Italic type* states the possible consequences of not avoiding the hazard.

## • Safety Symbols

A safety symbol, when present, gives a graphical description of the potential hazard, and how to avoid the hazard:



**Risk of Fire**



**Read Instructions Before Use**



**Risk of Explosion**



**Mandatory Eye Protection**



**Risk of Entanglement**



**Mandatory Protective Gloves**



**Dangerous Fumes**



**Mandatory Protective Clothing**



**Do Not Pull or Move**

## 1.02 IMPORTANT SAFETY INSTRUCTIONS

### DANGER



Vehicle gases contain Carbon Monoxide, which is a colorless & odorless lethal gas.

- **Only run engines in well ventilated areas and avoid breathing exhaust gases.**  
*Extended breathing of exhaust gases will cause serious injury or death.*

### WARNING



Improper use and operation.

- **Read, understand and follow all safety messages and operational procedures in this manual before operating the ADVANTAGE BRAKE PRO system.**
- **This equipment should be operated only by qualified personnel.**
- **Use this equipment only as described in this manual.**

*Improper use and operation of this product can result in injury.*

### WARNING



Exhaust gases, moving parts, hot surfaces, and potent chemicals may be present during use of the brake fluid exchange equipment.

- **When using chemicals and fluids always refer to the MSDS sheets and manufacturer's instructions for the proper procedure to handle emergency medical treatment, cleanup, handling, and storage requirements.**

*Improper use of the equipment or exposure to exhaust gases, moving parts, hot surfaces, or moving parts may cause injury.*

## WARNING



Transmission systems may maintain residual pressure in lines after the engine has been turned off.

- **Wear safety glasses, chemical resistant gloves, and protective clothing when connecting and disconnecting lines and adapters.**
  - **Confirm ZERO pressure before connecting and disconnecting lines and adapters.**
- Exposure to liquids and vapors can cause injury.*

## WARNING



Risk of expelling pressurized fluids.

- **Keep the service hoses away from hot or moving engine parts. Hoses can split or burst causing fluid to be expelled.**
- **Tighten all connections properly.**

Chemicals and fluids may cause respiratory tract and/or skin and eye irritation.

- **Use safety glasses and protective clothing when handling fluids.**
- **Do not ingest chemicals or breathe vapors**
- **Treatment methods are as follows:**
  - Eyes: Flush eyes with plenty of water.**
  - Skin: Wash with soap and water.**
  - Inhalation: Move to uncontaminated area.**
  - Ingestion: If large amount, get medical attention.**
  - If any irritation persists, get medical attention.**
- **Dispose of used fluid according to environmental laws and regulations.**

*Although transmission fluids pose no significant health hazards, some individuals may experience adverse reactions upon contact. Pressurized fluid can cause serious injury.*

## WARNING



Batteries produce explosive gases and can explode.

- **Keep sparks and flames away from the battery.**
- **Do not lay tools, equipment, or other conductive items on the battery.**
- **Connect the positive lead of the equipment to the positive lead of the battery first.**
- **Connect the negative lead of the equipment to vehicle ground as far away from the battery as leads will allow to prevent sparking and igniting of battery gases.**
- **Keep battery acid away from skin and eyes. In case of eye contact, flush with clean water for 15 minutes and get medical attention.**

*Battery explosion and ignited gases can cause injury.*

 **WARNING**

Engine has moving parts. Risk of entanglement.

- **Do not place tools on fenders or other places in engine compartment.**
- **Keep yourself, clothing, adapters and service hoses clear of moving parts such as fan blades, belts and pulleys.**
- **Wear safety goggles (user and bystanders).**

*Moving components can cause injury.*

 **WARNING**

Risk of burns.

- **Wear gloves when working near hot engine components.**
- **Do not touch hot exhaust systems, manifolds, engines, radiators, etc.**

*Hot components can cause injury or discomfort.*

 **WARNING**

Risk of injury.

- This equipment should be operated by qualified personnel only.
- Use this equipment only as described in this manual.
- Loop the power cord loosely in its proper location when machine is not in use.
- Do not operate equipment with a damaged power cord or hoses, or if the equipment has been dropped or damaged, until it has been examined by a qualified service representative.
- Care should be taken to arrange the power cord and service hoses so that they will not be tripped over or pulled.
- Never pull on the power cord or service hoses to transport the ADVANTAGE BRAKE PRO system. Damage may occur to these components, or machine may tip over.
- Keep area of operation clear of unnecessary tools and equipment. Utilize storage area on the top of the machine and drawers.
- Never leave the machine running unattended.
- The ADVANTAGE BRAKE PRO system is not designed for any other purpose than the exchanging, filling, and draining of brake fluids.

*Operation of your ADVANTAGE BRAKE PRO system by anyone other than qualified personnel may result in injury.*

 **CAUTION**

Risk of equipment damage.

- Servicing, transporting, or storing this machine in an attitude other than the normal operating position can result in fluid spillage and/or component damage.
- Use only the manufacturer's recommended attachments.
- The ADVANTAGE BRAKE PRO system is fully automatic. Refer to your control panel at all times.
- Never pull on the power cord or service hoses to transport the ADVANTAGE BRAKE PRO system. Damage may occur to these components, or machine may tip over.
- Periodically clean the machine by wiping down with a clean, soft, dry cloth.

*Improper operation of equipment may result in damage to machine or components.*

**SAVE AND FOLLOW THESE INSTRUCTIONS!**

## III. SYSTEM FEATURES & SPECIFICATIONS

### 2.01 FEATURES

#### Application

- Exchanges brake fluid in most brake systems
- Restores pedal feel.
- Extends service life of brake system

#### Functions

- Intuitive, fully electronic microprocessor controlled panel
- Step by step guided operation
- User selectable modes: brake fluid service, drain waste tank, total count, set up
- Bright seven segment LED displays function, service pressure, total count
- Board mounted LED display indicates available procedures and service progression
- Audible signal and LED prompts user to close bleeder(s) when new fluid reservoir reaches minimum level
- Waste tank level indicator
- Emergency PAUSE/ABORT button

#### Cabinet Features

- Composite cabinet
- Ergonomically correct working height
- 8" rigid rear wheels
- 3 1/2" swivel casters with brakes
- High flow rate pumps
- Accepts up to 1/2 gallon new fluid reservoir
- Adjustable minimum new fluid level
- 6 gallon waste tank
- 12' external service hoses
- 13' single wheel bleeder adapter
- 13' x 4 spider (4 wheel) bleeder adapter
- 15' power cord

## 2.02 DIMENSIONS & TECHNICAL SPECIFICATIONS

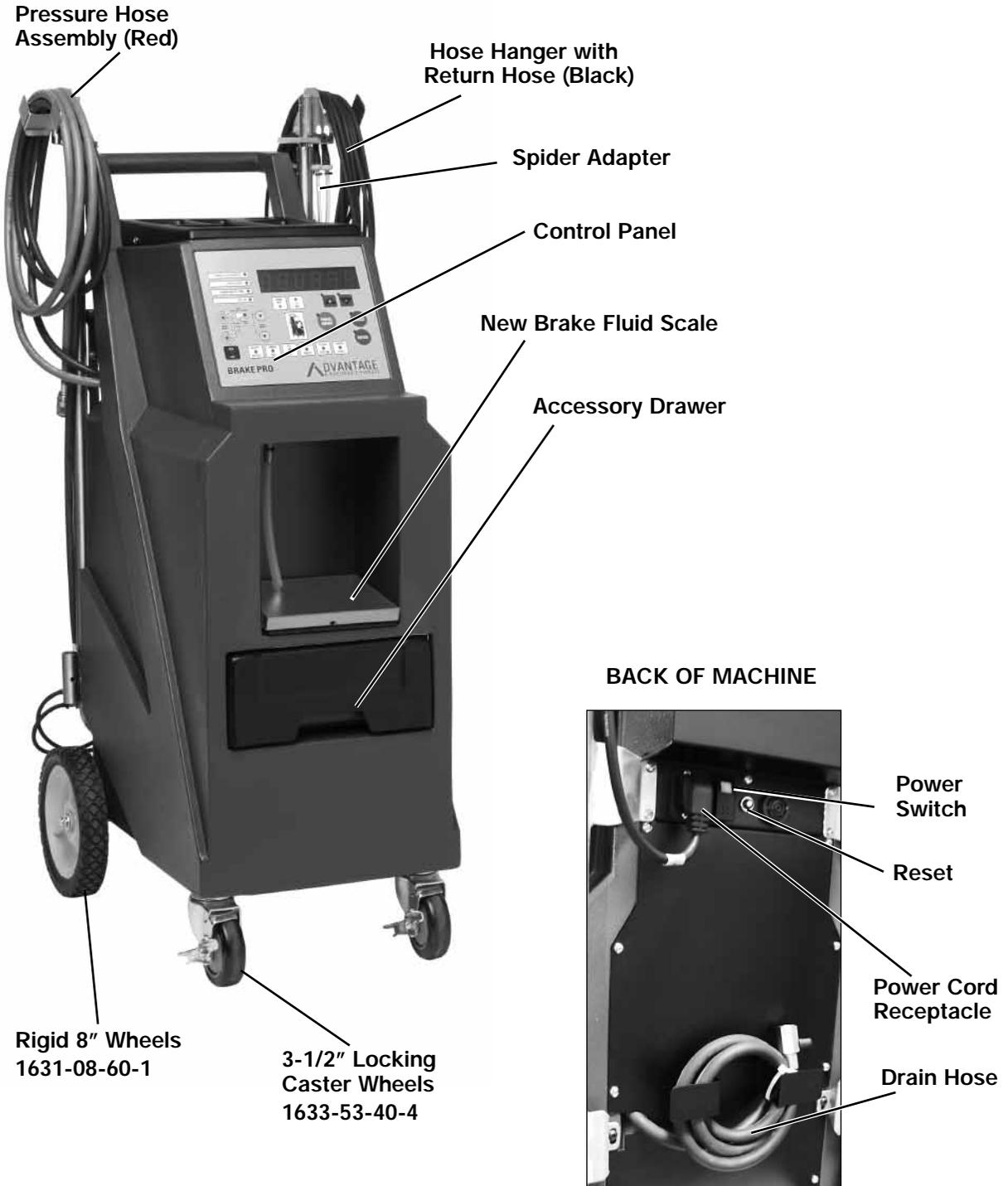
### Specifications

- Six (6) U.S. gallon waste tank
- 12' external service hoses
- 8" rigid rear wheels
- 3 1/2" swivel caster with brakes
  
- **Electrical Requirement:** 100 to 240 vac (note switch on power supply).
- **Weight** (uncrated): 94 lbs. (42.75 kgs) BRAKE PRO only  
12 lbs. (5.4 kgs) Master cylinder adapter kit
  
- **Dimensions:** 18" (46 cm) wide  
24" (61 cm) deep  
48" (122 cm) high
  
- One (1) year limited warranty

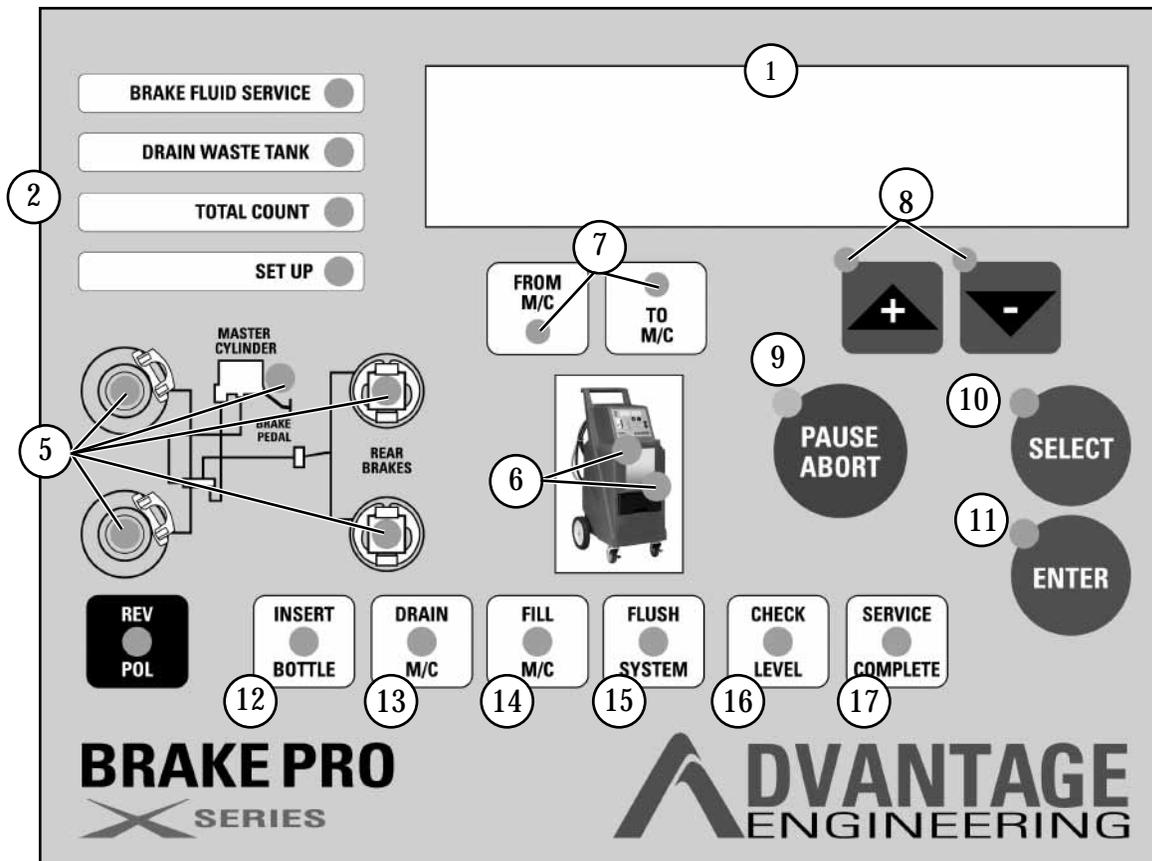
### Standard Accessories

- 13' Single wheel bleeder adapter
- 13' x 4 (4 wheel) spider bleeder adapter
- Fill adapter
- Master cylinder adapter kit (in case)

## 2.03 MACHINE OVERVIEW



## 2.04 CONTROL PANEL OVERVIEW



BRAKE PRO panel shown.

KEYS NAME/FUNCTION	DETAILS
1 <b>DISPLAY</b> (6 digits) LED	Indicates service pressure (PSI)
2 <b>MODE</b> LED	Lights to indicate mode selected
5 <b>MODE</b> LED	Lights to indicate hose hook up and service mode
6 <b>FLUID BOTTLE</b> LEDs – green and amber	Lights green to indicate presence of new fluid. Lights amber to signal stop service when minimum fluid level is reached.

<b>KEYS NAME/FUNCTION</b>	<b>DETAILS</b>
<b>7 FLOW DIRECTION</b> LEDs - green	Indicates direction of fluid from Master Cylinder
<b>8 ADD (+)/SUBTRACT (-)</b> Buttons (LEDs - green)	Depress to change preset pressure (PSI) and to manually add or remove fluid during level check
<b>9 PAUSE/ABORT</b> Button - LED	To pause (depress momentarily and release) To abort (depress and hold for 5 seconds)
<b>10 SELECT</b> Button (LED - green)	Depress to select mode. Depress repeatedly to skip a function
<b>11 ENTER</b> Button (LED - green)	Depress to confirm selection
<b>12 INSERT BOTTLE</b> LED (green)	Lights to indicate insert bottle
<b>13 DRAIN M/C</b> LED (green)	Lights to indicate drain master cylinder
<b>14 FILL M/C</b> LED (green)	Lights to indicate fill master cylinder
<b>15 CONNECT HOSES</b> LED (green)	Lights to prompt operator to connect hoses
<b>16 FLUSH SYSTEM</b> LED (green)	Lights to indicate BRAKE SYSTEM FLUSH mode
<b>17 CHECK LEVEL</b> LED (green)	Lights to prompt CHECK LEVEL mode. Operator can add or remove fluid by depressing + or - keys.

## **IV. OVERVIEW AND OPERATING PROCEDURES**

### **3.01 TOOL USAGE**

- Frequently inspect and clean any tools used and lubricate all non-sealed ratchet mechanisms with light oil.
- The use of any other accessories not specified in this manual may create a hazard.
- Read, understand, and follow Safety Instructions in the front pages of this manual and on any product safety labels.

## **3.02 BRAKE PRO – OPERATING PROCEDURE**

Power up. Connect power cord to a 120VAC grounded power outlet.

Depress power switch located at the rear of the BRAKE PRO under power cord hanger.

A red LED on the control panel will light indicating New Bottle Empty. The SELECT LED will light and flash.

Depress SELECT once to select mode. The first mode is brake fluid service. The green BRAKE FLUID SERVICE LED will light. Pause for one second and depress ENTER to confirm this mode.

The BRAKE PRO default pressure, 18 PSI, will show in the display. Yellow "+" and "-" LEDs will flash.

If required, depress "+" or "-" keys to adjust pressure. The adjustments are in 1 PSI increments.

Depress ENTER to confirm. The red LED for Insert Bottle flashes.

Depress ENTER. The red LED for Insert Bottle goes solid.

Insert new brake fluid bottle. New Bottle green LED lights.

Depress ENTER. Drain Master Cylinder red LED flashes. Remove black external hose from bleeder adapter. Submerge black hose in master cylinder reservoir. Depress ENTER. The drain master cylinder pump is activated. From Master Cylinder flow direction LED and Master Cylinder LED on schematic display of brake system flash.

Depress ENTER when the master cylinder reservoir is drained and reconnect black external hose to bleeder assembly. The Fill Master Cylinder LED flashes. Connect fill adapter to red external hose.

Depress ENTER. The fill master cylinder pump is activated. Fill master cylinder to maximum level.

Depress ENTER when the master cylinder fill is completed. The Connect Hoses LED flashes.

Depress ENTER. Install appropriate master cylinder adapter to master cylinder reservoir. Connect red external hose to adapter. Crack open bleeders on brake calipers and connect bleeder hose assembly.

Depress ENTER. The flush system LED flashes.

Depress ENTER. The flush system LED goes solid. The pressure and return pumps are activated. Check for leaks.

Tighten bleeders at the brake calipers when only new fluid flows through clear 12" hoses on bleeders or audio signal sounds and check level LED flashes.

NOTE: Audio signal and service will continue for 30 seconds to allow closing of bleeders.

Depress ENTER to stop flush cycle. Check level LED flashes.

Depress ENTER. The yellow "+" and "-" keys are flashing.

NOTE: Depress "-" key before removing bleeders to prevent spillage.

Remove bleeder hose(s) from calipers and return to hanger.

Remove red hose and master cylinder adapter and return to hanger.

Depress "-" key again to stop.

To top off master cylinder, attach fill adapter to red external hose to fill master cylinder. Press "+" key to top off master cylinder reservoir. Press "+" key again to stop.

To remove brake fluid from master cylinder, use black external hose. Press "-" key to lower level of brake fluid. Press "-" key again to stop.

Depress ENTER. This will start the 15 second finish procedure.

NOTE: Pressure is used to perform the service with vacuum on return hoses to prevent spillage.

### **3.03 DRAIN WASTE TANK – OPERATING PROCEDURE**

Power up. Connect power cord to a 120VAC grounded power outlet.

Depress power switch located at the rear of the BRAKE PRO under power cord hanger.

A red LED on the control panel will light indicating New Bottle Empty. The SELECT LED will light and flash.

Depress SELECT three times to select the drain waste tank mode. The yellow DRAIN WASTE TANK LED will light.

Uncoil waste hose from hanger located in the rear center panel.

Open drain valve and place hose with valve in waste brake fluid container. NOTE: Observe all Federal, State, and Local regulations when disposing of waste brake fluid.

Depress ENTER to activate drain mode. Note: Drain valve must be open to prevent damage to drain hose.

Press ENTER to stop drain mode or when the waste tank is empty.

Close valve and recoil waste hose to hanger located in the rear center panel.

Turn off power by depressing power switch located at the rear of the BRAKE PRO under power cord hanger.

### **3.04 TOTAL COUNT – OPERATING PROCEDURE**

Power up. Connect power cord to a 120VAC grounded power outlet.

Depress power switch located at the rear of the BRAKE PRO under power cord hanger.

A red LED on the control panel will light indicating New Bottle Empty. The SELECT LED will light and flash.

Depress SELECT two times to select the total count mode. The green TOTAL COUNT LED will light.

Depress ENTER. Total count will show in display.

Depress ENTER again to return to mode selection.

## V. TROUBLESHOOTING GUIDE

### 4.01 TROUBLESHOOTING GUIDE

**PROBLEM:** The unit will not power up..

**SOLUTION:**

- Check power cord for proper connection at rear of BRAKE PRO and at wall socket.
- Check that power switch is in the "on" position.
- Check circuit breaker located to the right of power switch. Reset if necessary.

**PROBLEM:** Pump is running but unit will not build pressure.

**SOLUTION:** Make sure new brake fluid pick up tube is submerged in new fluid bottle.

#### ADDITIONAL HELP

Please verify that items 1-3 above have been reviewed before calling of additional assistance.

In the unlikely event that problems persist with the unit call Technical Support, have you model and serial numbers available before you call.

Remember to send in your warranty card, otherwise service will be delayed.

1-877-906-1395 (U.S. AND CANADA)

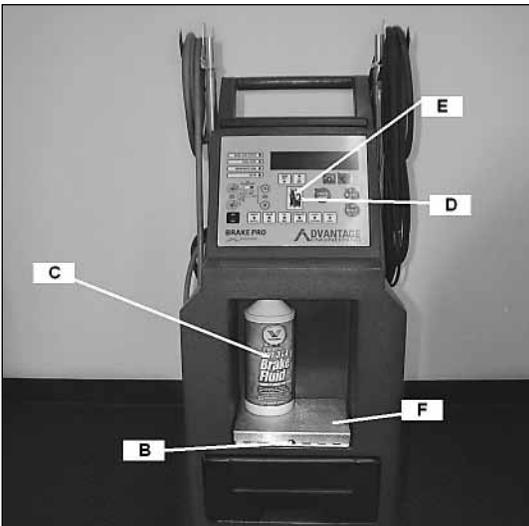
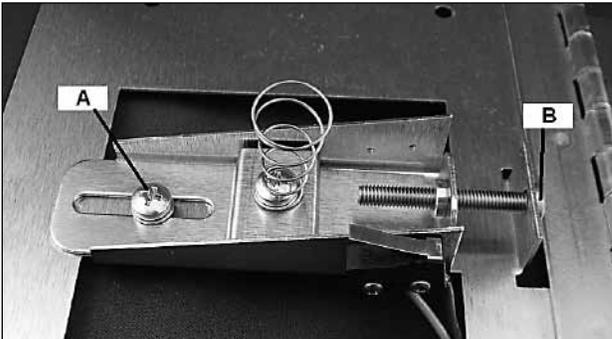
### 4.02 OVERVIEW OF THE ADVANTAGE BRAKE PRO SERVICE

The Advantage Engineering BRAKE PRO presents a convenient and efficient way to evacuate and exchange brake fluid from most brake systems.

When properly connected, the BRAKE PRO extracts brake fluid from the master cylinder, allows refill of the master cylinder with new brake fluid, and pressurizes the master cylinder in coordination with opening/closing the brake bleeders to allow removal of old brake fluid.

### 4.03 BRAKE-PRO SCALE ADJUST

1. Connect powercord to ac receptacle.
2. Turn on power switch located in rear.
3. flip scale panel "F" outwards
4. Loosen screw "A" one turn.



5. Flip scale panel "F" inwards.
6. Install Bottle "C" with desired minimum fluid level.
7. If red led "D" is lit turn and push screw "B" counter clockwise with Philips screw driver until green led "E" is lit.
8. Remove bottle "C"
9. Flip scale panel "F" outwards.
10. Tighten screw "A".
11. Flip scale panel "F" inwards.

NOTE: Factory setting is .680 Lbs = Bottle with desired min. fluid.

# APPENDIX A - ADAPTERS

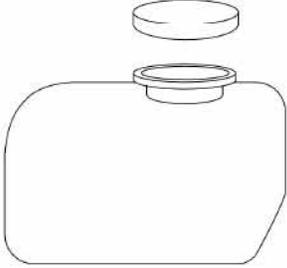
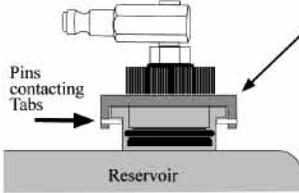
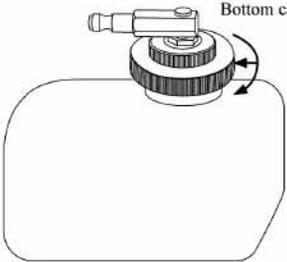
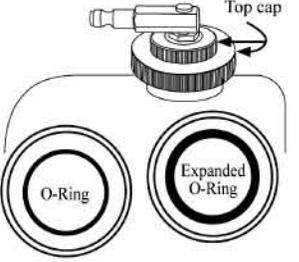
## 5.01 BRAKE BLEEDER ADAPTER KITS

<b>BMW</b>	All	BA05		
<b>CADILLAC</b>	32V Northstar 1996-	BA04		328 GTS BA05
	Eldorado TC 1996-	BA04		F40 BA05
	Seville SLS 1996-	BA04		Mondial T + convertible top BA05
	Seville STS 1996-	BA04		Testarossa BA05
	SRX 2003-	BA04		<b>FIAT</b> Most BA05
	CTS (DOT3) 2001-	BA04		<b>FORD</b> All older 2 tab models BA02
	XLR 2003-	BA04		Cougar 1999- BA05
	BLS 2005-	BA05		Courier 1995- BA05
<b>CHEVROLET</b>	Alero 1999-	BA04		Escort 1996- BA05
	Astro-Van 1996-	BA12		Explorer BA03
	Blazer 1996-	BA04		Fiesta 1996- BA05
	Blazer 1999-	BA04		Focus BA05
	Camaro 1999-	BA04		Fusion BA05
	Corvette 1996-	BA04		Galaxy 1995- BA05
	Hummer H2 + H3 2003-	BA04		Galaxy 2003- BA05
	S10 Pick-Up 2WD + 4WD 1996-	BA04		Maverick + Ranger 1996- BA03
	Suburban 1996-	BA12		Navigator (USA) 2001- BA03
	Tahoe 1996-2002	BA12		Probe -1992 BA03
	Tahoe 2003-	BA04		Probe 1993- BA05
	Trans Sport 1999-	BA04		Ranger 1999- BA05
	Trail Blazer 2001-	BA04		Transit Van 1998- BA05
<b>CHRYSLER</b>	Crossfire 2003-	BA05		Windstar 1996- BA03
	300M 2.7 Executive 1999-	BA03		<b>GM</b> All BA04
	300C Touring + Sedan 2005-	BA01		<b>HONDA</b> Civic/Accord/Prelude 1976-83 BA08
	Neon Sport 16V 1996-	BA03		Accord 1985-1992 BA09
	Neon LE 1,6 2001-	BA01		Accord 1996- BA09
	New Yorker	BA03		Accord 1999- BA09
	PT Cruiser 2001-	BA01		Civi Shuttle BA07
	Sebring 2001-	BA03		Civic 1992- BA08
	Stratus 1999-	BA03		Civic 1996- BA09
	Vision	BA04		Civic (EJ 9) 1999- BA09
	Viper 2003-	BA01		CRX 1,6 BA07
	Grand Voyager 1999-	BA03		CRX 1,6 1997- BA09
	Grand Voyager 2002	BA01		HR-V 1999- BA09
	Voyager LE 1996 -	BA01		Insight 1999- BA09
	Voyager SE 1994-	BA01		Legend 1991- BA09
	Voyager SE 2,4 2001-	BA01		Logo 1999- BA09
	Voyager LX 2,5 2001-	BA01		NSX-T (1981- =DOT3) 1999- BA08
<b>DAEWOO</b>	Aveo 2005-	BA05		Odyssey (US-Minivan) 1999- BA09
	Espero	BA05		Prelude 1991- BA08
	Evanda 2003-	BA04		Prelude 1992- BA09
	Kalos 2003-	BA05		Prelude 2,0 BA07
	Lacetti 2003-	BA05		S 2000 1999- BA09
	Lanos	BA05		Shuttle 1997- BA08
	Nexia	BA05		<b>HYUNDAI</b> All BA03
	Nubira 1999-	BA05		<b>ISUZU</b> Frontera 1989- BA08
	Nubira 2001-	BA04		Monterey 1989- BA08
	Nubira WTCC R+ 2005-	BA05		Rodeo 2005- BA08
<b>DAIHATSU</b>	Charmant 1989-	BA07		Trooper -1989 BA07
	Copen 2003-	BA08		Trooper 1989- BA08
	Cuore / Charade -1989	BA07		<b>JAGUAR</b> Jaguar XJ Twin TD 2005- BA05
	Cuore (L701) 1999-	BA08		Jaguar XKR 1999- BA05
	Cuore (L251) 2005-	BA08		Jaguar XJR 1999- BA05
	Move (L901)	BA07		Jaguar Sovereign 4.0 BA05
	Gran Move (G301)	BA07		Jaguar S-Type V8 1999- BA03
	Sirion (M100; M101)	BA07		Jaguar S-Type R 2003- BA05
	Sirion (100,M101,M111) 2003-	BA08		Jaguar X-Type 2001- BA05
	Terios (J102)	BA10		Jaguar Daimler Super V8 BA05
	YRV (M201)	BA07		<b>JEEP</b> Jeep Cherokee 1995 BA03
<b>FERRARI</b>	Alle Pkw	BA05		Jeep Cherokee 1996- BA01
	328 GTB	BA05		Jeep Wrangler 1996- BA01
				Jeep Wrangler Sport 1999- BA01

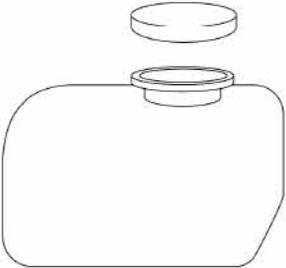
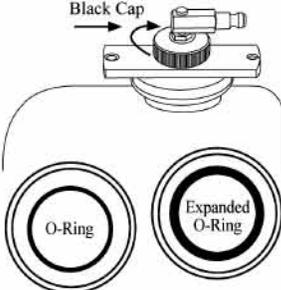
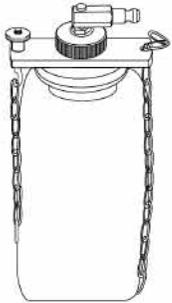
	Jeep Wrangler 2003-	BA01	<b>ROVER</b>	All	BA03
	Jeep Grand Cherokee 1996-	BA01	<b>SAAB</b>	All	BA03
<b>KIA</b>	Carens 1999-	BA03	<b>SUBARU</b>	Coupe 1800 1988-	BA03
	Carens 2001-	BA05		Forester 1999-	BA03
	Carnival 1999-	BA05		Forester 2000-	BA03
	Carnival 2005-	BA03		Impreza 1,8GL	BA03
	Cerato 2005-	BA03		Impreza 4WD 1998-	BA03
	Clarus 1997-	BA05		Impreza WRX 2001-	BA03
	Joice	BA03		Justy 2003-	BA03
	Magentis 2001-	BA03		Legacy 1995-	BA03
	Opius 2003-	BA05		Legacy +Kombi 1999-	BA03
	Picanto 2005-	BA03		Outback 1989-	BA03
	Rio 2000-	BA07		Sedan 1800 4WD	BA03
	Rio 2003-	BA03	<b>SUZUKI</b>	Alto 1996-	BA05
	Pride 1995-	BA07		Samurei 1993-	BA05
	Sephia 1995-	BA05		Samurei Van 1989-	BA07
	Shuma 2000-	BA05		Samurei Van + Pick Up 1999-	BA05
	Sorento 2003-	BA05		SJ Samurei + SJ 413 1985-	BA07
	Sportage 1995-	BA05	<b>TOYOTA</b>	Avensis 1998-	BA05
<b>LAMBORGHINI</b>	All	BA05		4-Runner 1996-	BA10
<b>LAND ROVER</b>	All	BA05		Camry 1993-	BA10
<b>LEXUS</b>	All	BA10		Camry	BA11
<b>MASERATI</b>	3200 GT 1999-	BA05		Carina 1993	BA10
	Quattroporte 1999-	BA05		Celica 4WD	BA11
<b>MAZDA</b>	121 1995-	BA03		Celica GT 2,0 / GT 1600	BA11
	121 LX	BA07		Celica GT 2,0 / GT 1600 2001-	BA10
	2 2003-	BA05		Celica CS 2003-	BA10
	3 2003-	BA05		Corolla	BA11
	5 2005-	BA05		Corolla E11	BA10
	626 LX / GLX	BA07		Corolla 1993-	BA10
	6 2003-	BA04		Corolla 1996-	BA11
	B2500 Pickup 4WD 1998-	BA05		Corolla Combi 1972-1986	BA11
	B-Serie 2.5L TD 1999-	BA05		Corolla 2003-	BA05
	Demio 1998-	BA07		Cressida 1977-1981	BA05
	Luxus / LX + Sport	BA07		Crown 1985-	BA07
	MPV 1999-	BA03		Landcruiser	BA07
	MPV 2001-	BA04		Landcruiser HJ100	BA10
	MX-5 1999-	BA03		Landcruiser 2003-	BA10
	MX-5 2005-	BA05		MR-2 2003-	BA10
	Premacy	BA04		Previa	BA10
	RX-8 2003-	BA04		Prius 2001-	BA10
	Tribute 2001-	BA03		RAV 4 1996-	BA10
<b>MERCEDES-BENZ</b>	All	BA05		EAV-4 2003-	BA10
<b>MINI</b>	All	BA05		Starlet	BA11
<b>MITSUBISHI</b>	All	BA03		Tercel	BA11
<b>NISSAN</b>	100 NX 1993-	BA03	<b>VOLVO</b>	All	BA05
	200 NX 1993-	BA07	<b>VOLKSWAGEN</b>	All	BA05
	200 SX 1995-	BA03		Beetle 1998-2002	BA05
	200 SX - Turbo Maxima 3,0	BA07		Beetle 2003-	BA05
	350Z 2003-	BA03		Caddy 2005-	BA05
	Almera 1995-	BA03		EOS 2005-	BA05
	Maxima QX 1995-	BA03		Multivan 2003-	BA05
	Pathfinder + RS1 2005-	BA03		1500 Typ 1	BA07
	Patrol GR TD6 1999-	BA03		1500 / 1600 Typ 3	BA07
	Patrol Turbo D	BA07		411 / 412 Typ 2 (28 Durchm.)1988-	BA07
	Pick Up	BA07		LT 28	BA07
	Pick Up 2001-	BA03		Lupo	BA07
<b>PONTIAC</b>	Firebird + Cabrio	BA04		Sharan -2002	BA05
	Trans Sport	BA04		Sharan 2003-	BA05
<b>PORSCHE</b>	All	BA05		T4 1994-	BA05
<b>RENAULT</b>	All	BA05			

## 5.02 BRAKE BLEEDER ADAPTER INSTRUCTIONS

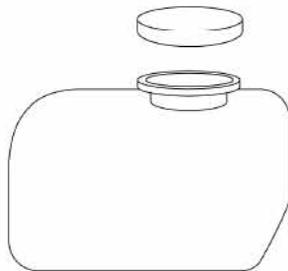
### Twist-Lock Adapter Installation: BA01, BA02, BA03, BA 04, BA13

	<p><b>1.</b> Remove the reservoir cap and install the proper brake bleeder adapter.</p>
	<p><b>3.</b> Lift the outer edge of the adapter until the metal adapter pins contact the plastic tabs on the reservoir while holding cap in place.</p>
	<p><b>2.</b> Turn the adapter ¼ turn until adapter is secured to the reservoir.</p>
	<p><b>4.</b> When the adapter pins contact the plastic tabs on the reservoir, turn the black knurled knob clock-wise until the O-ring fully expands.</p>

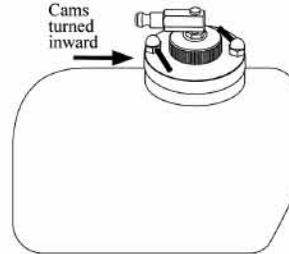
### Honda Chain Only Installation-BA08, 09-Teal Blue

	<p><b>1.</b> Remove the reservoir cap and install the proper brake bleeder adapter.</p>
	<p><b>3.</b> Once the adapter is on the reservoir, turn the black knurled piece clockwise until it fully expands the o-ring.</p>
	<p><b>2.</b> After expanding the o-ring run the chain beneath the master cylinder and connect to the slot on the other side of the adapter. You may have to turn the bar to accommodate the Master Cylinder.</p>
	<p><b>4.</b> With chain securely fastened give the black knurled knob one last solid twist.</p>

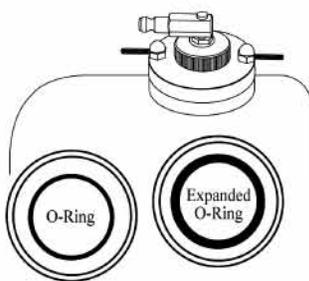
### Toyota Cam Lock Adapter Installation-BA10, 11-Burgundy



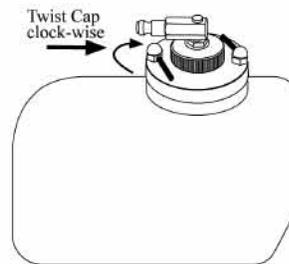
**1.** Remove the reservoir cap and install the proper brake bleeder adapter.



**3.** Once the adapter has been placed on the vehicle, turn the lock handles in so that the handles come in close contact with the black knurled knob.

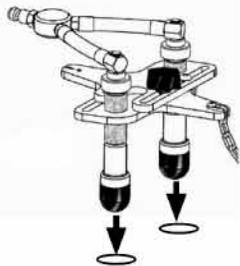


**2.** Make sure all the cam lock handles are pointing out.

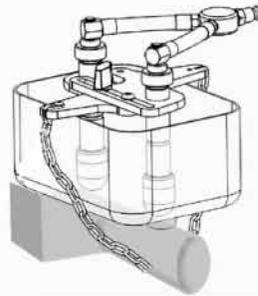


**4.** Once the cam locks are in place twist the black knurled knob clockwise until you have fully expanded the o-ring.

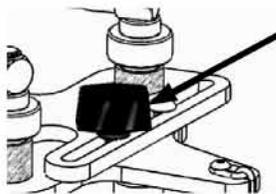
### Instructions for BA14 Brake Bleeder Adaptor



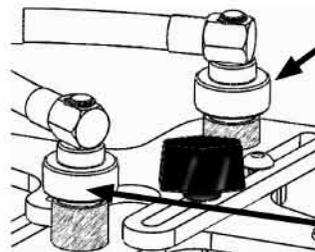
**1.** Carefully place the BA-14 over the master cylinder reservoir. Adjust the sliding plates to align the 2 rubber cones with the 2 port fittings at the bottom of the reservoir bowl.



**3.** With the adjusting plates locked, wrap the security chain beneath the master cylinder. Don't run chain beneath the reservoir itself. Pull chain hand tight and secure one of the chain links in the slot. Should be snug not tight.



**2.** Once the adapter body is centered, and the rubber cones are correctly aligned with the reservoir ports, lock the plates in place by tightening the thumb nut.



**4.** With the chain in place begin turning the black knurled wheels, located on top of each cylinder. Turn each wheel clockwise until they are tight.

## 5.03 BRAKE BLEEDER ADAPTER HIGHLIGHTS

# Brake Bleeder Adapters

Quick, Reliable and Leak-Proof

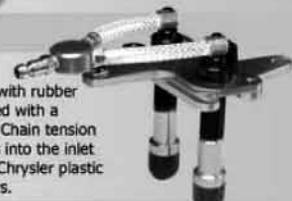
**360 degree Swivel Nipple fittings** saves wear & tear on pressure hoses and eliminates clearance issues

**Color Coded Anodized Aluminum caps** for easy recognition

**Standard brass fittings** insure compatibility with all styles of Brake Bleeders

**Expandable O-Rings** guarantees a leak-proof seal every time

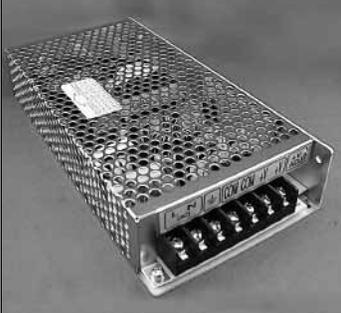
POWER PROBE™

	<p><b>#BA01</b> Two-piece, 3-tab caps with expandable O-Rings. One adapter has pressure nipple &amp; the other seals the second brake fluid fill inlet. Fits Chrysler master cylinders with twin twist caps.</p>		<p><b>#BA08</b> Expandable O-Ring adapter with chain tension hold down. Fits Honda Master Cylinders with diameter of 2.11" to 2.17".</p>
	<p><b>#BA02</b> 2-tab cap with expandable O-Ring. Fits Ford master cylinders with twist caps.</p>		<p><b>#BA09</b> Expandable O-Ring adapter with chain tension hold down. Fits Honda Master Cylinders with diameter of 2.91". Also fits many Isuzu models.</p>
	<p><b>#BA03</b> 3-tab cap with expandable O-Ring. Fits Ford, Hyundai, Chrysler, Pontiac, Kia &amp; Mazda master cylinders with twist caps.</p>		<p><b>#BA10</b> Expandable O-Ring adapter with adjustable hold down clips. Fits Toyota &amp; Lexus Master Cylinders with diameter of 1.69".</p>
	<p><b>#BA04</b> 3-tab cap with expandable O-Ring. Fits GM, Chevrolet, Cadillac, Pontiac, Daewoo &amp; Mazda master cylinders with twist caps.</p>		<p><b>#BA11</b> Expandable O-Ring adapter with adjustable hold down clips. Fits Toyota &amp; Lexus Master Cylinders with diameter of 2.75".</p>
	<p><b>#BA05</b> Threaded cap. Fits all European makes as well as Domestic with Bosch and Teves master cylinders.</p>		<p><b>#BA12</b> Durable plate adapter with 2 hold down chains for rectangular cast iron master cylinders.</p>
	<p><b>#BA06</b> Small universal round adapter with chain tension hold down. Specially designed for Clutch Reservoirs.</p>		<p><b>#BA13</b> Expandable O-Ring. Fits Nissan Altima &amp; Exterra master cylinders with twist caps.</p>
	<p><b>#BA07</b> Large universal round adapter with chain tension hold down. Fits round Master Cylinders with diameter of 0.800" to 3.150".</p>		<p><b>#BA14</b> Twin cylinders with rubber cones connected with a common hose. Chain tension hold down. Fits into the inlet holes of GM &amp; Chrysler plastic master cylinders.</p>

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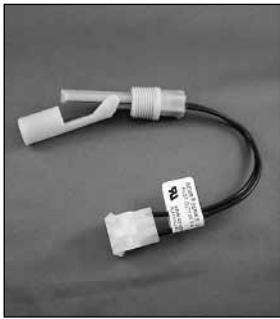
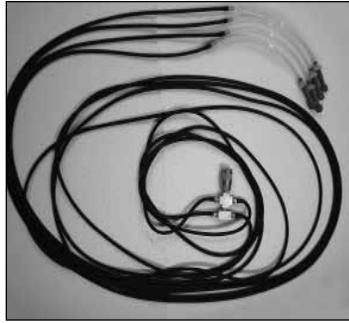
## APPENDIX B - REPLACEMENT PARTS

### 6.01 REPLACEMENT PARTS

		
<p><b>1631-08-60-1</b> WHEEL, 8" OD</p>	<p><b>1633-53-40-4</b> Wheel , Swivel Locking Caster 3.5" OD</p>	<p><b>2141-95-02-0</b> Manifold Block Assy.</p>
		
<p><b>2248-20-02-5</b> Pump Vacuum Assy.</p>	<p><b>2248-20-01-5</b> Pump Pressure Assy.</p>	<p><b>2248-20-03-5</b> Pump Waste Assy.</p>
		
<p><b>3041-25-10-0</b> Power Supply</p>	<p><b>3050-71-40-0</b> Panel Mount Circuit Breaker</p>	<p><b>3070-15-10-4</b> Power Cord</p>

**ORDERING ADAPTERS AND REPLACEMENT PARTS**  
**1-877-906-1395 (U.S. AND CANADA)**

## 6.01 REPLACEMENT PARTS

			
<p><b>3090-01-01-0</b> Snap-Acting Switch w/ Rigid Lever Assy.</p>	<p><b>3090-13-11-3</b> Power Switch Assy.</p>	<p><b>3113-58-50-8</b> Tank Level Sensor</p>	<p><b>6402-00-00-0</b> Adapter, Bleeder</p>
			
<p><b>3160-68-12-1</b> Audio Signal</p>	<p><b>5570-00-61-2</b> Display Panel</p>	<p><b>6403-00-01-0</b> Adapter, Fill Gun</p>	
			
<p><b>6402-00-01-0</b> Adapter, Bleeder w/ Check Valve and 9" Clear Tube Assy.</p>	<p><b>6402-01-01-0</b> Adapter, Single Bleeder Hose w/ 12' Hose Assy.</p>	<p><b>6402-02-01-0</b> Adapter, Spider Bleeder Hose, 12' X 4 Assy.</p>	

**ORDERING ADAPTERS AND REPLACEMENT PARTS**  
**1-877-906-1395 (U.S. AND CANADA)**

## APPENDIX C - MAINTENANCE

### 7.01 MAINTENANCE PROCEDURES

The following maintenance procedures should be performed on a routine basis:

1. Clean the exterior with a plastics cleaning agent or similar product to keep the cabinet looking new.
2. Check all hoses and wires for cuts or frays.

The unit is now ready for the next service.



### CAUTION



- Frequently inspect and clean any tools used, and lubricate all non-sealed ratchet mechanisms with light oil.
- The use of any other accessories not specified in this manual may create a hazard.
- Read, understand and follow Safety Instructions in the front pages of this manual and on product safety labels.

## LIMITED ONE (1) YEAR WARRANTY BRAKE PRO BRAKE FLUID EXCHANGER

AEC GROUP INC. warrants only to the original Purchaser that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for one year from the date of original invoice. External hoses, remote control modules, adapters and all other attachments, supplies and consumables (except as otherwise provided herein) are warranted for 90 calendar days from the date of original invoice. Filter elements are not warranted.

SELLER'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED SOLELY TO THE REPAIR OR, AT SELLER'S OPTION, REPLACEMENT OF EQUIPMENT OR PARTS WHICH TO SELLER'S SATISFACTION ARE DETERMINED TO BE DEFECTIVE AND WHICH ARE NECESSARY, IN SELLER'S JUDGEMENT, TO RETURN THE EQUIPMENT TO GOOD OPERATING CONDITION. NO OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

This warranty does not cover (and separate charges for parts, labor and related expenses shall apply to) any damage to, malfunctioning, inoperability or improper operation of the Equipment caused by, resulting from or attributable to (A) abuse, misuse or tampering; (B) alteration, modification or adjustment of the Equipment by anyone other than Seller's authorized representatives; (D) improper or negligent use, application, operation, care, cleaning, storage or handling; (E) fire, water, wind, lightning or other natural causes; (F) adverse environmental conditions, including, without limitation, excessive heat, moisture, corrosive elements, or dust or other air contaminants, radio frequency interference, electric power failure, power line voltages beyond those specified for the equipment, unusual physical, electrical or electromagnetic stress, and/or any other condition outside of Seller's environmental specifications; (G) use of the Equipment in combination or connection with other equipment, attachments, supplies or consumables not manufactured or supplied by Seller; or (H) failure to comply with any applicable federal, state or local regulation.

Repairs or replacements qualifying under this Warranty will be performed on regular business days during Seller's normal working hours within a reasonable time following Purchaser's request. All requests for Warranty service must be made during the stated Warranty period. This warranty is non-transferable.



AEC GROUP INC.

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[www.aecgroup.net](http://www.aecgroup.net)