



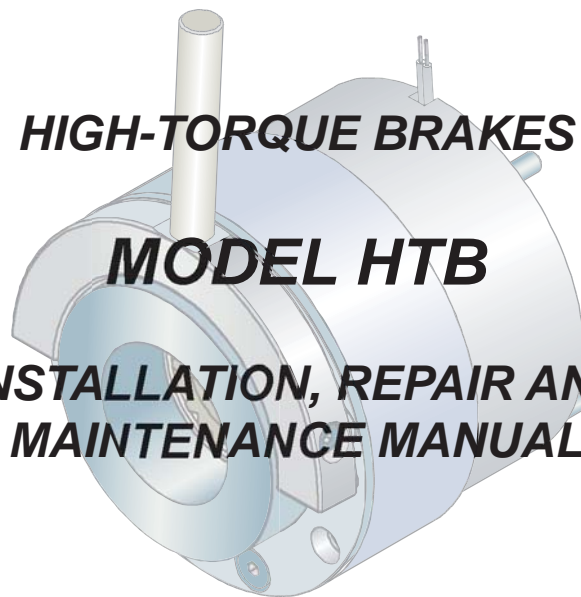
CARLYLE JOHNSON

MAXITORQ®

HIGH-TORQUE BRAKES

MODEL HTB

**INSTALLATION, REPAIR AND
MAINTENANCE MANUAL**



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SAFETY WARNING

**EXTREMELY HIGH SPRING FORCES
ARE PRESENT WITHIN BRAKE -
CARE MUST BE USED
DURING DISASSEMBLY, REASSEMBLY
AND MAINTENANCE
TO PREVENT SERIOUS INJURY**

**THE USE OF APPROVED EYE PROTECTION
IS MANDATORY WHEN
INSTALLING AND WHEN SERVICING BRAKE**

**A SWITCHED ADJUSTABLE
POWER SUPPLY RATED FOR AT LEAST
150% OF THE COIL VOLTAGE
IS REQUIRED FOR ASSEMBLY**

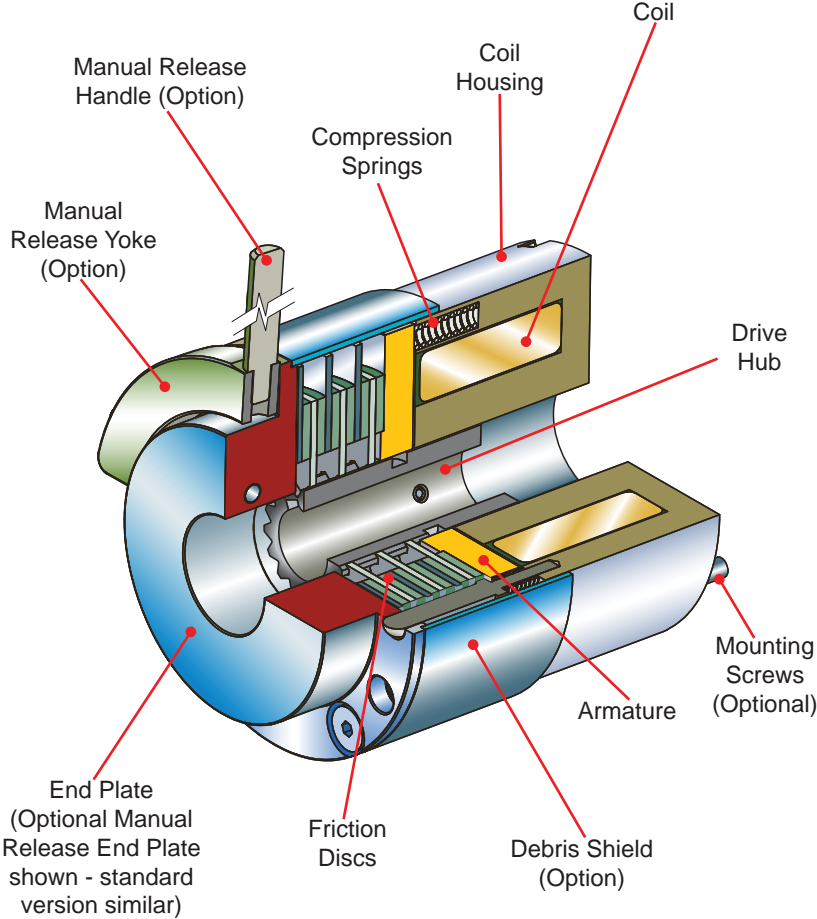
**DO NOT ATTEMPT
TO DISASSEMBLE THIS BRAKE
WITHOUT THE PROPER TOOLS
AND SAFETY EQUIPMENT**

**LOCK OUT/TAG OUT ALL POWER
BEFORE PERFORMING INSTALLATION,
REMOVAL, OR MAINTENANCE,
AND MAKE SURE THERE IS
NO STORED ENERGY IN SYSTEM
DURING INSTALLATION OR REMOVAL**

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MODEL HTB CUT-AWAY VIEW



Model HTB Major Parts

THEORY OF OPERATION

MAXITORQ[®] model HTB Brakes are called “Spring-Applied Energy Release” brakes, and offer very high torque capability in a small form factor. Spring-Applied Brakes are engaged (either dynamically stopping motion or holding a device in a stopped state) when no electrical power is being supplied to the Brake Coil. Internal Compression Springs force the friction plates together to provide holding and/or braking action.

When power is supplied to the Brake Coil, the magnetic field attracts the Armature toward the Coil Housing Body, overcoming the force of the Compression Springs; this action permits Separator Springs to push the friction surfaces apart, and allows the Brake Drive Hub to rotate freely.

HTB Brakes are useful in applications where immediate braking action is desired in the event of loss of electrical power.

HTB Brakes are also used in applications where the Brake is “Normally Engaged” and only occasionally disengaged. Such installations consume far less power than an electrically actuated Power-Applied Brake.

MAXITORQ[®] model HTB Brakes require very little maintenance and have long operating lives. However, when used in dusty or dirty environments, the addition of an optional Debris Shield is strongly recommended.

These Brakes can also be equipped with a “Manual Release” mechanism to permit manual disengagement when required, as shown on Page 2. All HTB Brakes can be retrofitted in the field with Debris Shields and/or Manual Release mechanisms.

If exposed to dust, dirt, or contaminants, the Brakes can be disassembled and cleaned. Follow the instructions in this manual for reassembly and shimming to get acceptable service from the Brake.

When performance deteriorates after extended service, and provided there is sufficient friction material remaining on the Discs, Brakes can usually be “Reshimmed” to restore their full capability.

Brakes can also be renewed with new friction surfaces after long service. We recommend factory refurbishment because of the extreme spring forces present in the units, but field repair can be accomplished if the safety precautions in this manual are followed carefully, and if personnel with proper tools and training undertake the effort.

Carlyle Johnson can also provide hands-on training at nominal cost.

Brake Coils can only be replaced at the factory. This service is not normally required if the Brake is handled, installed, and maintained properly.

NOTES ON HANDLING AND INSTALLATION

OBSERVE ALL SAFETY PRECAUTIONS SHOWN INSIDE FRONT COVER!

1. Handle brake carefully to avoid damage to Lead Wires. Wires are internally attached to the Coil. If they become broken, damaged or frayed, factory replacement of the Coil will be necessary.

The electrical leads may be routed directly out the back of the Brake or at any angle up to perpendicular to the Brake's axis. Use care when routing leads to avoid damage.
2. If Brake has optional Debris Shield installed, do not remove Shield unless absolutely necessary. Debris Shield slides over Coil Housing, and may damage Lead Wires if not handled carefully.
3. Inner Splined Discs are factory aligned with the Drive Hub. Discs must remain aligned to permit installation. Power should not be applied to the Brake with Hub removed. If Inner Discs are disturbed prior to installation, follow procedures on Page 13, "Aligning the Hub" to correct.
4. If Brake is equipped with an optional Manual Release, it may be necessary to use an extension device (such as a length of pipe) to increase leverage. Do not try to force the supplied Manual Release handle beyond a line projected up from the end of the Brake.
5. Brake alignment is critical. When installed, it must be perpendicular to the axis of the surface to which it is being attached, and must be aligned within .005" TIR. Misalignment or non-perpendicularity will cause the Brake to wear quickly, and may lead to failure of the Brake to engage fully.
6. Brake can be mounted either from the front with thru-holes, or into threaded holes in the rear of the Coil Housing. When front-mounting, it will be necessary to remove the Manual Release (if equipped) to gain access to the mounting holes.
7. Electrical requirements are shown in the back of this manual. Voltage must be within 10% of the Coil rating to obtain proper Brake performance. Either lead of the Brake Coil may be considered positive (+). There is no polarity to the Brake Coil.
8. Care must be exercised when connecting the Brake Coil directly to a PLC or other computer device. A large current inrush is present when the Brake Coil is de-energized, which can easily overload and damage sensitive equipment. Contact the factory for protection circuitry information if needed.
9. **DO NOT DISASSEMBLE THIS BRAKE WITHOUT FOLLOWING THE INSTRUCTIONS UNDER "BRAKE MAINTENANCE" IN THIS MANUAL.** Severe injuries may result from improper disassembly!

INSTALLATION SPECIFICATIONS

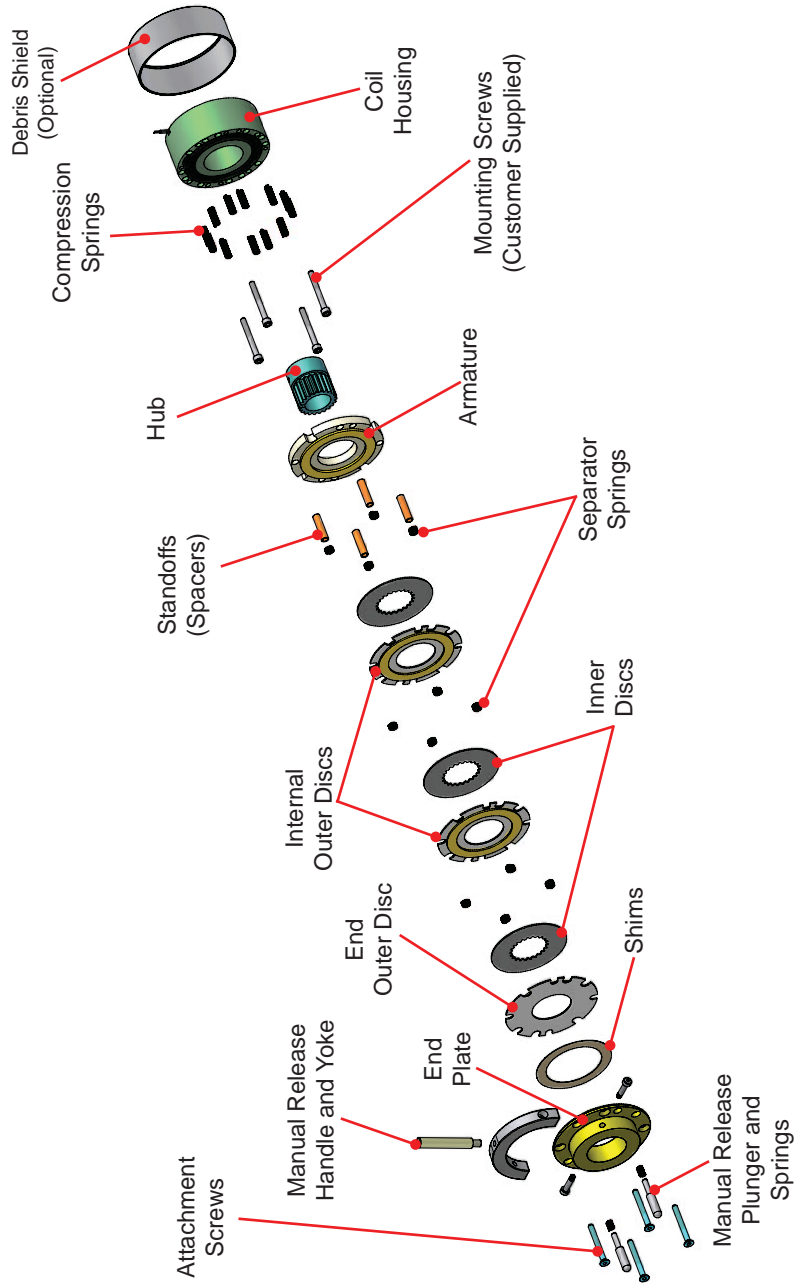
Installation Specifications									
Component	Description	Brake Model							
		HTB-270	HTB-350	HTB-450	HTB-600	HTB-800	HTB-1000		
Mounting Brake from Front (Thru-holes in Coil Housing)									
Mounting Screws [†]	Quantity	4	4	4	6	8	8		
Mounting Screws [†]	Type	SHCS							
Mounting Screws [†]	Size (Dia/Thd/Len)	#8-32 x 1.75"		#10-24 x 2.00"		1/4" - 20 x 2.25"		5/16" - 18 x 3.5"	
	Thread Engagement	Min thread engagement 150% of diameter of screw - Use Loctite [®] 271 Threadlocker on all screws							
	Tightening Torque [‡]	60 lb in		60 lb in		150 lb in		300 lb in	
Mounting Brake from Back (Threaded holes in back of Coil Housing)									
Mounting Screws [†]	Quantity	4	4	4	6	8			
Mounting Screws [†]	Type	Customer Selected							
Mounting Screws [†]	Size (Dia/Thd)	#8-32	#10-24	#10-24	1/4" - 20	1/4" - 20	5/16" - 18		
	Thread Engagement	Min thread engagement 150% of diameter of screw - Use Loctite [®] 271 Threadlocker on all screws							
	Tightening Torque [‡]	60 lb in		60 lb in		150 lb in		300 lb in	
Hub Attachment to Drive Shaft									
Keyway	Size (in)	1/8 x 1/16		3/16 x 3/32		1/4 x 1/8		3/8 x 3/16	
Set Screws	Size (Dia/Thd/Len)	#6-32 x 1/8"		#8-32 x 3/16"		#10-24 x 1/4"		1/4" - 20 x 1/4"	
Installation									
Locating Diameter - O. D.	inches	2.70		3.50		4.50		6.00	
Locating Diameter - I. D.	inches	0.820		1.500		2.125		2.875	
Hub / Brake Alignment	inches	<.005 T.I.R.							
Perpendicularity	Hub to mtg surface	1° ± 1/2°							

[†] - Customer Supplied - Can be ordered from Factory

[‡] - Min torque setting assumes proper thread engagement

Table 1

HTB BRAKE - EXPLODED DIAGRAM



MAINTENANCE - RE-SHIMMING BRAKE

OBSERVE ALL SAFETY PRECAUTIONS SHOWN INSIDE FRONT COVER!

The synthetic Friction Material in the *MAXITORQ*® HTB Brakes will provide trouble-free service if contaminants are kept out of the Disc area. If the Brake is used as a holding brake, the unit should provide extremely long life and no adjustments should be necessary for an extended period of time.

If the Brake is used in a dynamic braking application with frequent high-energy stops, wear will be accelerated, and eventually the magnetic field from the Brake Coil will be unable to pull the Armature "in", and overcome the force of the Compression Springs. In this event, the Brake may need "reshimming" to restore it to normal service. Shims can be purchased from the Factory.

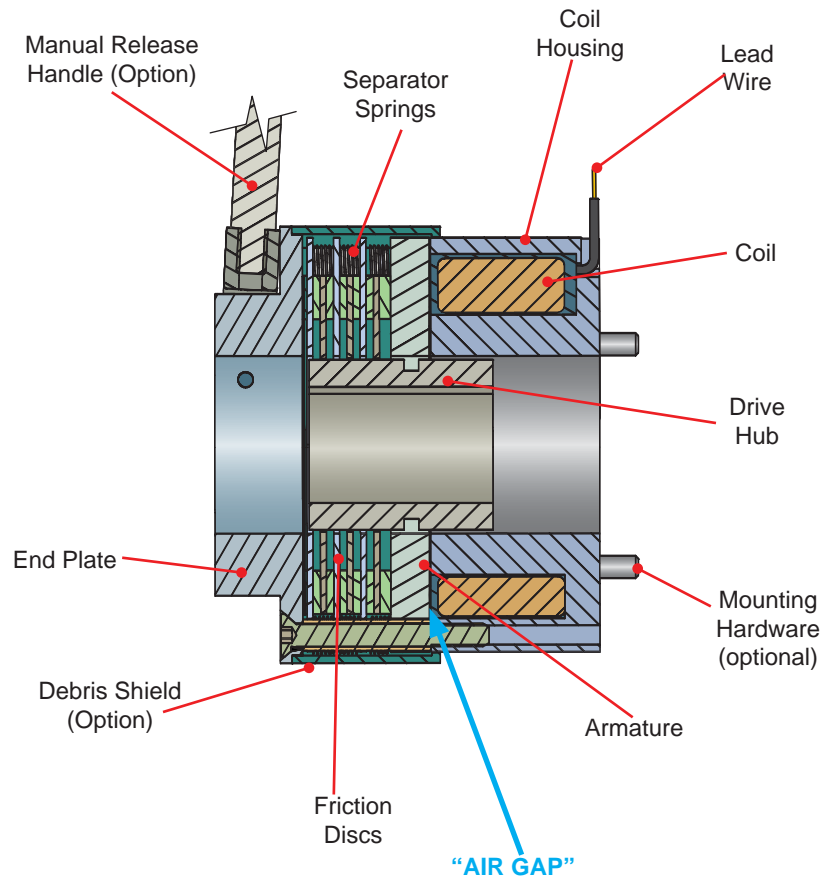
Wear of the friction surfaces gradually increases the "Air Gap". It is usually possible to overcome this wear by adjusting the Air Gap with additional shims. Eventually, however, there is insufficient friction material to provide rated braking action. Use the steps below to determine if Brake performance can be restored by "reshimming" the assembly.

1. Remove the Brake from service. Remove the Debris Shield (if equipped). Measure and record the "Air Gap" with a feeler gauge (the Air Gap is the distance between the face of the Armature and the face of the Coil Housing - see Sectioned View on Page 8). **RESHIMMING IS ALLOWED IF THE OBSERVED AIR GAP PLUS THE THICKNESS OF THE EXISTING SHIMS IN THE BRAKE, DOES NOT EXCEED THE VALUE for "Maximum Unshimmed Air Gap" (Page 14).** This value allows for the maximum friction material wear permissible on the Brake Discs.
2. Connect a Power Supply to the Coil Leads. Energize the power supply. Apply a voltage equal to 150% of the rated voltage of the Coil for no more than 10 seconds. When the Armature is "snapped" against the Coil, power should be immediately reduced to the rated voltage of the Coil. **DO NOT TURN OFF OR DISCONNECT THE POWER SUPPLY!**

If the Armature cannot be pulled "in" with this method, it will be necessary to completely disassemble the Brake as shown under "Maintenance - Disassembly" in this manual.
3. After removing the End Plate, keep hand-pressure on the Discs to prevent Separator Springs from falling out.

Add the thickness of Shim(s) already present to the observed Air Gap from Step 1. If this total is less than the value shown in the under "Maximum Unshimmed Air Gap" on Page 14, then additional Shimming is allowed.
4. Compute the required shim thickness as follows: [(Observed Air Gap from Step 1) + (Shims already present) - ("Air Gap" on Page 14)]. Insert the Shims on the Disc Stack, then proceed to Step 13 under "Maintenance - Reassembly" (Page 12), and complete reassembly of the Brake.
5. If the computed value exceeds the "Maximum Unshimmed Air Gap", complete replacement of Discs and Springs is necessary.

MODEL HTB SECTIONED VIEW



Model HTB Major Parts

MAINTENANCE - DISASSEMBLY

OBSERVE ALL SAFETY PRECAUTIONS SHOWN INSIDE FRONT COVER!

1. Place the Brake on a flat work surface with the Coil Housing "DOWN". Remove the Hub, and if equipped, the Manual Release Yoke and Handle (Screws are assembled with Loctite® Threadlocker, and may be difficult to remove. A small heat source such as a propane torch may be necessary, to release the Loctite).
2. Carefully route the Coil Lead Wires behind the Brake Coil Housing so that they do not protrude out the side of the Brake.
3. Slide the Debris Shield (if equipped) off the back of the Brake. The Debris Shield is held in place with Loctite® Gasket Eliminator - remove it with a knife or razor blade. Be careful to avoid damaging the lead wires!
4. Install a minimum of three (3) "C" clamps over the Brake, and tighten them firmly. Place one end of the clamp on the bottom of the Coil Housing (do not damage the wires!) and the other end over the End Plate. Use pieces of wood or other material under the jaws of the clamps to avoid scratching the surface of the Brake.
5. With the clamps securely fastened, back out the Flat Head Screws from the End Plate. NOTE: Screws are assembled with Loctite® Threadlocker, and may be difficult to remove. A small heat source such as a propane torch may be necessary, to release the Loctite.
6. When all the Screws are removed, carefully and slowly release the clamps. Loosen the clamps evenly to keep the internal components aligned. Do not remove the clamps from the Brake until all internal pressure has been released.
7. If Discs and Springs are being replaced, discard the following parts:
 - End Outer Disc - friction surface on one side only;
 - Inner Discs with Splines (quantity varies with model);
 - Internal Outer Discs - friction surfaces on both sides (quantity varies with model);
 - Armature Disc - friction surface on one side only;
 - Separator Springs (quantity varies with model).

DO NOT DISCARD COMPRESSION SPRINGS IN COIL HOUSING!

Do not mix old and new Discs and Separator Springs. Replace the entire set to obtain proper performance from Brake!

8. Set the balance of the parts aside for reuse. Note that the large Compression Springs in the Coil Housing are required to engage the Brake. Make sure that you have the proper quantity before reassembly (see "Assembly - Component Quantities" on Page 10).
9. Clean all parts of residue, adhesives, and lubricants.

ASSEMBLY - COMPONENT QUANTITIES

Component and Hardware Quantities used in Assembly of HTB Brakes							
	Identification	Brake Model					
		HTB-270	HTB-350	HTB-450	HTB-600	HTB-800	HTB-1000
Brake Components							
Compression Springs	Coil Springs	10	12	20	24	21	21
Attachment Screws	Flat Head Cap Screws	4	4	4	6	8	8
Stand-Offs	Hollow Spacers	4	4	4	6	8	8
Shims							
	.002"						A/R
	.005"						A/R
	.010"						A/R
	.020"						A/R
Friction Disc Components							
Inner Discs	Splined I.D.	3	3	3	3	4	4
End Outer Discs	Friction Mat'l One Side	1	1	1	1	1	1
Internal Outer Discs	Friction Mat'l Dual Sided	2	2	2	2	3	3
Separator Springs	Small Coil Springs	12	12	12	18	32	32
Armature Disc Assembly	Friction Mat'l One Side	1	1	1	1	1	1
Manual Release Components*							
Coil Springs	Small Coil Springs	2	2	2	2	2	2
Attachment Screws	Shoulder Screws	n/a	2	2	2	2	2
Hub Components							
Set Screws	Socket Set Screws	2	2	2	2	2	2
Mounting Hardware Components (Customer Supplied)							
Mounting Screws†	Socket Head Cap Screws	4	4	4	6	8	8

* - Optional Feature
† - Customer Supplied - Factory Part Number Shown

Table 2

MAINTENANCE - REASSEMBLY

OBSERVE ALL SAFETY PRECAUTIONS SHOWN INSIDE FRONT COVER!

REASSEMBLY OF BRAKE

1. During reassembly, a suitable power supply rated for the same voltage as the Brake Coil is to be attached to the Coil Lead Wires. When energized, POWER MUST NOT BE REMOVED FROM COIL UNTIL ASSEMBLY IS COMPLETE! Failure to follow this instruction can result in severe injury.
2. Place the proper complement of Brake Compression Springs into the recesses on the Coil Housing. Refer to the section on "Assembly - Component Quantities" (Page 10) to determine the correct number of springs.
3. Place the Armature over the Coil Housing. The friction facing on the Armature should face "UP". Make sure the holes and slots in the Armature align with corresponding holes in the Coil Housing. NOTE: Armature "slots" must align with clearance holes in the Coil Housing, NOT threaded holes!
4. Align tubular Stand-offs (Spacers) with threaded (not clearance) holes in the Coil Housing. Temporarily secure the Spacers with the provided Flat-Head Screws. These will be used to locate the Armature in its proper position.
- 5a. Apply steady and even hand pressure to the Armature and energize the power supply. A voltage reading of not more than 150% of the rated voltage of the Coil may be applied for no more than 10 seconds. Once the Armature is "snapped" against the Coil Housing, power must be immediately reduced to the rated voltage of the Coil. **WARNING! KEEP FACE AWAY FROM BRAKE! If the Armature cannot be pulled down against the Coil Housing in this fashion, turn off the power supply and proceed to Step 5b. Otherwise, proceed to Step 6.**
- 5b. Insert at least three (3) "C" clamps evenly around the circumference of the Brake. Use pieces of wood to protect the surface of the Brake components. Tighten the clamps evenly until the clamps are holding the Armature against the Coil Housing. Energize the power supply, applying voltage equal to the rating of the Coil. **WARNING! KEEP FACE AWAY FROM BRAKE!**
Gradually loosen the clamps evenly. The clamps should quickly become loose, and the Armature should be held tightly against the energized Coil.
When the clamps are loose, remove and set them aside. **DO NOT TURN THE POWER SUPPLY OFF!**
6. Place a small metal or wooden block inside the bore of the Coil Housing to support the Hub which is used for Disc alignment during assembly. See the dimensions for "Hub Spacing" in the Table "Assembly Dimensions / Part Numbers" (Page 14) for the approximate size of the wooden block.
7. Place the Hub into the bore of the Coil Housing, resting on the small block.

MAINTENANCE - REASSEMBLY, con't

8. Remove the Flat-head Screws from the Stand-offs. Keep Stand-offs (Spacers) aligned with threaded holes in the Coil Housing.
9. Slide an Inner Disc over the Hub. Inner Discs have a splined I.D. to engage the Hub. Place a Separator Spring over each one of the Stand-offs.
10. Slide an Internal Outer Disc (with friction spacing on both sides) over the Stand-offs, and let it rest on the Separator Springs.
11. Repeat Steps 9 and 10 until all Inner and Internal Outer Discs have been placed in the assembly. You should have one complement of Separator Springs and the End Outer Disc left to assemble at this point.
12. Place the last set of Separator Springs over the Stand-offs, and then the End Outer Disc (friction facing on one side only), with the friction facing toward the Disc Stack. Apply hand pressure to the Disc Stack to hold the components in place. Place an .020" Shim over the Disc Stack
13. Install the End Plate over the Assembled Brake; insert the Flat Head Screws through the End Plate and through the Stand-offs. Thread the Screws into the Coil Housing and tighten them, but do not apply any Loctite® Threadlocker at this time.
14. Once all the Screws are securely tightened, turn the power supply "OFF". The Brake is now "ENGAGED".

SETTING THE "AIR GAP"

15. The "Air Gap" is the distance between the face of the Coil Housing and the face of the Armature, when the Brake is "Engaged" (see Page 8). It must be set by adjusting the number of Shims under the End Plate. To determine how many Shims must be used, take the following measurements:
16. Determine the proper Air Gap from the Table "Assembly Dimensions / Part Numbers" (Page 14).
17. Using feeler gauges, determine the gap present in the assembled Brake.
18. Since the Brake already has a Shim measuring .020" installed, calculate how much shim material must be added (or removed) to achieve the proper Air Gap. Shims are available in thicknesses of .002", .005", .010", and .020". An assortment of Shims are included in the Disc/Spring Repair Kit.
19. Turn the Power Supply back on. The Armature should "snap" in against the Coil Housing. If the Armature cannot be pulled in, momentarily (for not more than 10 seconds) apply a voltage equal to 150% of the Coil rating. Once the Armature is pulled in, immediately reduce power to 100% of the Coil rating. **DO NOT REMOVE POWER FROM THE COIL UNTIL INSTRUCTED TO DO SO! WARNING! KEEP FACE AWAY FROM BRAKE!**

MAINTENANCE - REASSEMBLY, con't

20. Remove the Flat Head Screws, keeping hand pressure on the Brake, to overcome the Separator Spring force.
21. Remove the End Plate, but keep pressure on the Disc Stack so that the assembly is not disturbed. Insert (or remove) Shims as necessary to achieve the proper Air Gap.
22. Repeat Steps 13 through 17. If the Air Gap is now correct, proceed with Step 23. If the Air Gap is not correct, repeat Steps 19 through 21.
23. Remove one Flat Head Screw at a time, apply a small amount of Loctite® Threadlocker to the threads of each screw, reinsert it into the Brake, and retighten (see Torque Setting in Table “Assembly Dimensions/Part Numbers - Tightening Torque” - Page 14) . When all screws have been fastened in this fashion, assembly is complete. Turn off the Power Supply.

REINSTALLING THE DEBRIS SHIELD (IF EQUIPPED)

24. Carefully pass the Coil Lead Wires through the Debris Shield, then slide the Shield over the Coil Housing until it seats firmly on the End Plate.
25. Apply a thin bead of Loctite® 30509 Gasket Eliminator to the seam where the Debris Shield rests on the Coil Housing.

REINSTALLING THE MANUAL RELEASE (IF EQUIPPED)

26. Slide the Coil Springs over the small end of the Plungers, and insert the Plungers into the holes on the End Plate. With manual pressure, the Plungers should be almost flush with the end of the End Plate.
27. Slide the Handle/Yoke Assembly over the End Plate and align the holes on the Yoke with the threaded holes in the End Plate.
28. Apply a small amount of Loctite® Threadlocker to the two Manual Release screws and tighten them securely into the End Plate. NOTE: For Model HTB-270, screws are not used. Slide the Pivot Shaft through the Manual Release Yoke and End Plate, then secure the Pivot Shaft with two Snap Rings.

ALIGNING THE HUB

29. Reenergize the Brake by turning on the Power Supply and applying the rated voltage to the Coil. The Hub and Inner Discs should move freely.
30. Center the Hub carefully in the Brake, and make sure it aligns with the centerline of the Brake Bore. Use pins or other spacers to accurately locate the Hub.
31. Turn the Power Supply “OFF”. The Hub is now aligned, and can be removed for Brake installation.

ASSEMBLY DIMENSIONS / PART NUMBERS

Component and Hardware Dimensions and Part Number used in Assembly						
	Brake Model					
	HTB-270	HTB-350	HTB-450	HTB-600	HTB-800	HTB-1000
Assembly Dimensions						
Air Gap (inches)	0.012	0.012	0.020	0.018	0.020	0.022
Max Unshimmed Air Gap (in)	0.170	0.170	0.175	0.175	0.230	0.230
Hub Spacing (inches)	0.950	0.900	0.900	1.250	1.250	1.750
Tightening Torque - assy*	20 lb in	48 lb in	48 lb in	120 lb in	120 lb in	240 lb in
Part Numbers - Springs / Shims						
Compression Spring	HDW300-178-262	HDW300-178-251	HDW300-178-251	HDW0600-178-001	HDW0800-178-001	FEB1000-178-001
Separator Spring	HDW300-178-257	HDW300-178-0048	HDW300-178-0048	HDW300-178-261	HDW300-178-261	HDW300-178-264
Manual Release Spring*	HDW300-178-258	HDW300-178-0049	HDW300-178-0051	HDW300-178-260	HDW300-178-263	HDW300-178-265
Shims	HTB0270-174-xxx ^Δ	HTB0350-174-xxx ^Δ	HTB0450-174-xxx ^Δ	HTB0600-174-xxx ^Δ	HTB0800-174-xxx ^Δ	HTB1000-174-xxx ^Δ
Part Numbers - Attachment Hardware						
Hub Set Screws	HDW300-08-12-02	HDW300-08-14-03	HDW300-08-16-04	HDW0300-08-20-04	HDW300-08-25-06	HDW300-08-25-06
Attachment Screws	HDW300-05-14-24	HDW300-05-16-28	HDW300-05-16-28	HDW300-05-20-32	HDW300-05-20-32	HDW300-00-22-40
Manual Release Screws*	n/a [§]	HDW300-04-14-10	HDW300-04-16-14	HDW300-04-20-16	HDW300-04-20-16	HDW300-04-20-16
Mounting Screws [†]	HDW300-00-12-28	HDW300-00-16-28	HDW300-00-16-32	HDW300-00-20-36	HDW300-00-20-44	HDW300-00-23-56
Part Numbers - Friction Surfaces						
Armature	HTB0270-177-001	HTB0350-177-001	HTB0450-177-001	HTB0600-177-001	HTB0800-177-001	HTB1000-177-001
Inner Disc	HTB0270-113-000	HTB0350-113-950	HTB0450-113-950	HTB0600-113-950	HTB0800-113-950	HTB1000-113-950
Internal Outer Disc	HTB0270-112-301	HTB0350-112-301	HTB0450-112-301	HTB0600-112-301	HTB0800-112-301	HTB1000-112-301
End Outer Disc	HTB0270-112-300	HTB0350-112-300	HTB0450-112-300	HTB0600-112-300	HTB0800-112-300	HTB1000-112-300
Standoff	HTB0270-360-000	HTB0350-306-000	HTB0450-360-000	HTB0600-360-000	HTB0800-360-000	HTB1000-360-000
Part Numbers - Drive Hub						
Drive Hub	FEB0250-103-xxx [‡]	FEB0350-103-xxx [‡]	FEB0450-103-xxx [‡]	FEB0600-103-xxx [‡]	FEB0800-103-xxx [‡]	FEB1000-103-xxx [‡]

[‡] - Part Number varies - defined by Keyway / Bore size - Contact Factory with Brake Serial Number
[†] - lb in setting for Flat-Head Screws used to assemble Brake. Use Loctite® 271 Threadlocker on all screws
^Δ - ,where ,xxx' is shown, for ,002' use ,001; ,005' use ,002; ,010' use ,003; ,020' use ,004
^{*} - Optional Feature
[§] - Uses Snap Ring HDW300-130-0053 (x 2)
[†] - Customer Supplied - Factory Part Number Shown

Table 3

BRAKE SPECIFICATIONS

Brake Model Identification

Manufacturer's Model Number: HTB Spring-Applied Brake

Brake Manufactured by:

The Carlyle Johnson Machine Company, LLC
291 Boston Turnpike
Bolton, Connecticut 06043
CAGE Code - 75182

Brake Electrical Requirements

Coils are supplied in standard voltages - 12 VDC; 24 VDC; 100 VDC
Custom coils are available in other voltages.

To meet torque specifications, power must be $\pm 10\%$ of the rated Coil voltage.

Either Coil lead may be considered positive (+). They have no polarity.

Care must be exercised when connecting the Brake Coil directly to a PLC or other computer device. A large current inrush is present when the Brake Coil is de-energized, and can easily overload and damage sensitive equipment. Contact the factory for protection circuitry information if needed.

Torque Values

Torque values for Assembly and Installation are Brake Model dependent and are shown in the Tables in this manual.

Torque values are derived from VDI 2230 "Systematic Calculation of High Duty Bolted Joints"

Adhesives and Lubricants

Loctite[®] 271 Threadlocker is used on external fasteners (Attachment Screws and Manual Release Screws).

Care must be used in removing these fasteners - a heat source may be required to soften the Loctite[®].

When mounting the Brake, Loctite[®] 271 Threadlocker should also be used on all Mounting Screws.

RTV Adhesive (Loctite[®] 30509 Gasket Eliminator or equivalent) is used to seal the optional Debris Shield to the Brake Coil Housing.

FACTORY SUPPORT

Contacting the Factory.

The MAXITORQ[®] Multiple-Disc Brake is manufactured by:

The Carlyle Johnson Machine Company, LLC
291 Boston Turnpike • P O Box 9546
Bolton, Connecticut USA 06043-9546

Carlyle Johnson is located in the Eastern Time Zone of the United States and can be reached by telephone at the following numbers:

Main Number :	1 – (860) 643-1531
Toll-free within the USA :	1 – (888) MAXITORQ
	1 – (888) 629-4867
FAX :	1 – (860) 646-2645

Additional manuals are available free of charge. Model and serial number are required to order.

Technical help is available between 8:00 AM and 5:00 PM local time, Mondays to Fridays, excluding holidays.

Spare Parts may be ordered by calling the above number. Please have Serial Number of Brake available for our representative.

Returning Equipment for Repairs or Maintenance

Contact the factory prior to any returns to obtain a Return Goods Authorization number (RGA). Be sure to have the model number and serial number of the unit requiring service available when you call. This will speed the handling of your MAXITORQ[®] product when it is received.

Ship the unit prepaid to the above address in Bolton, Connecticut.

If the equipment is within its warranty period and our analysis shows that the repair is due to a manufacturer's defect, we will repair or replace the brake at no cost to you and return it prepaid to your location.

If our technicians determine that the unit needs parts which are not covered by the warranty or are outside the warranty period, you will be contacted with cost and schedule information prior to having the repairs undertaken. If you direct us to return the device without repair, an evaluation charge may apply.

We recommend that any time the brake is disassembled for service at the factory, a complete set of wear parts (discs, and springs) be installed to restore the device to like-new performance.

NOTES





The Carlyle Johnson Machine Company, LLC
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1 - (860) - 643 -1531 / Toll Free: 1 - (888) - MAXITORQ
www.cjmco.com