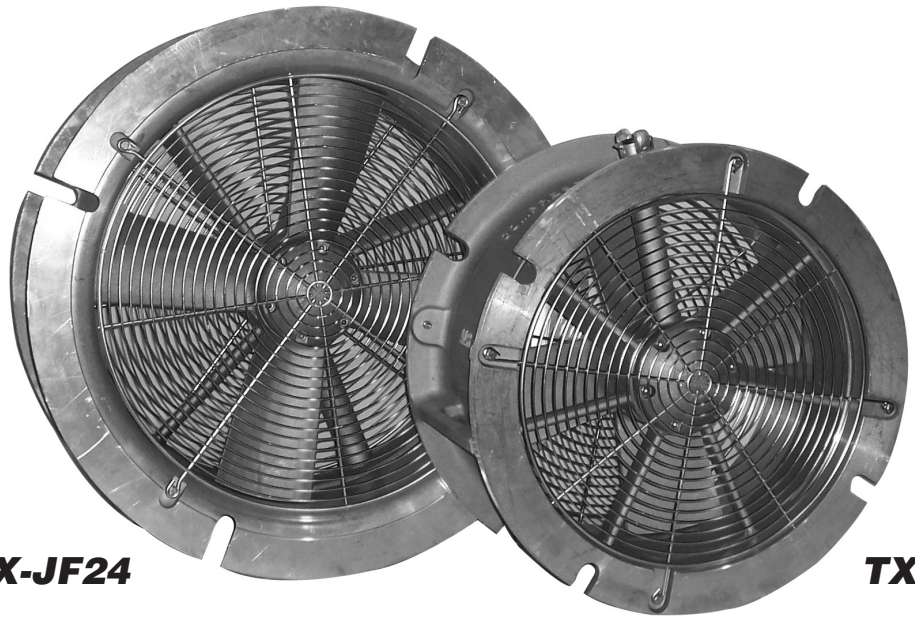
TEXAS PNEUMATIC TOOLS, INC.

Service, Operation AND Parts Manual

JET FANS



TX-JF24 ***TX-JF20***

SPECIFICATIONS

PART #	WEIGHT	BOX WEIGHT	MINIMUM HOSE SIZE	AIR INLET	MAX PRESSURE	DEPTH	DIAMETER	MOUNTING SLOT	BOLT CIRCLE DIAMETER
TX-JF20	96 lbs. 44 kg	104 lbs. 47 kg	1” 25 mm	3/4” NPT 19 mm	150 PSI 10 BAR	12” 31 cm	24.5” 62 cm	1” 25 mm	20” 51 cm
TX-JF24	131 lbs. 59 kg	143 lbs. 65 kg	1” 25 mm	1” NPT 25 mm	150 PSI 10 BAR	12” 31 cm	31.25” 79 cm	1” 25 mm	27.5” - 30.25” 70 - 77 cm

PERFORMANCE

CFM AGAINST STATIC PRESSURE

PART #	PSI	AVG RPM	AIR USE (CFM)	0	1	2	3	4	5	6	7	8	9
TX-JF20	40	2080	60	5920	3580	1650	220	0	-	-	-	-	-
	60	2695	114	7600	5870	3860	2350	1200	200	0	-	-	-
	80	3225	186	9100	7730	6000	4410	3180	2140	1190	270	0	-
	100	3670	292	10420	9200	7850	6260	4770	3650	2680	1850	1070	350
TX-JF24	40	1565	76	8104	2391	0	-	-	-	-	-	-	-
	60	2053	76	8104	2391	0	-	-	-	-	-	-	-
	80	2570	225	12848	9969	6223	3397	1225	0	-	-	-	-
	100	3138	338	16136	13975	11295	8305	6326	4638	2950	1261	0	-

Call, Fax or Email for metric performance table.

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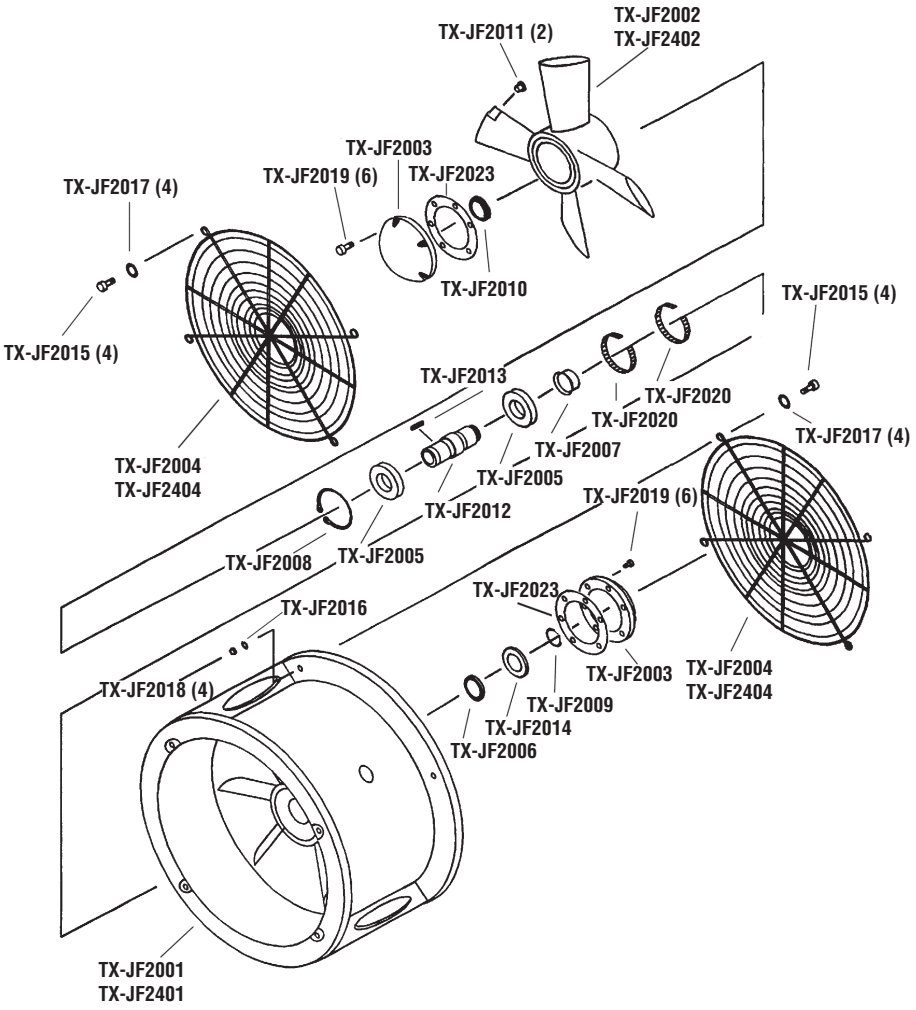

PART#	DESCRIPTION
TX-JF2001	20" JET FAN HOUSING
TX-JF2401	24" JET FAN HOUSING
TX-JF2002	20" FAN BLADE
TX-JF2402	24" FAN BLADE
TX-JF2003	INLET / OUTLET CAP
TX-JF2004	20" STAINLESS STEEL FAN GUARD (SCREEN)
TX-JF2404	24" STAINLESS STEEL FAN GUARD (SCREEN)
TX-JF2005	BEARING
TX-JF2006	AIR SEAL
TX-JF2007	SPEEDY SLEEVE
TX-JF2008	LARGE SNAP RING
TX-JF2009	SMALL SNAP RING
TX-JF2010	LOCKING BEAR HUG NUT
TX-JF2011	NOZZLE JET
TX-JF2012	SHAFT
TX-JF2013	KEY
TX-JF2014	LOCK SAFETY SHIELD
TX-JF2015	1/4" - 20 x 1-1/4" HEX CAP SCREW
TX-JF2016	1/4" - LOCK WASHER
TX-JF2017	1/4" - FLAT WASHER
TX-JF2018	1/4" - 20 HEX NUT
TX-JF2019	5/16" - 18 x 3/4" HEX SOCKET SCREW
TX-JF2020	TOLERANCE RING
TX-JF2022	BEAR HUG SOCKET (*) (Removal Tool)
TX-JF2023	INLET / OUTLET CAP GASKET
TX-JFTK	TOOL KIT (*)
TX-JFRK	REPAIR KIT (*)
AM29	GROUNDING CLAMP w/6' OF WIRE (*)
AM7	GROUNDING LUG (*)

(*) NOT SHOWN

Air Supply

Inspect the Fan Screens (TX-JF2004 or TX-JF2404) and the area of operation for loose debris which could be pulled into the fan. For efficient performance, a regulated supply of dry air is required at the fan. Use Texas Pneumatic Moisture Separating Systems (TX-MSS-400 or TX-MSS-800) for clean, moisture free air.

Service and Operation

The Texas Pneumatic Jet Fans have been designed to provide top performance, minimal maintenance and long life. Our Jet Fans have been tested by an independent facility to AMCA Standard 210. The performance data is taken from the actual test results.

Special Features of the Texas Pneumatic Jet Fans -

- The unit consists of a rugged cast-aluminum housing and a cast-aluminum fan blade.
- The hollow shaft and the blade are the only rotating parts. There is no torque on the shaft, as it does not transmit power to the fan blade as shafts normally do. The compressed air jets on the trailing edge of the fan blade drive the fan.
- The fan blade has a hub with four blades which produce adequate static pressure to overcome the resistance of the system to be ventilated.
- Only two of the four blades have jet outlets for the compressed air. All of the blades have airfoil cross sections for more efficient air flow & higher induction ratios.
- The housing is equipped with 6 guide vanes. The vanes neutralize the air spin from the blades and redirect the air flow into an axial direction.
- The housing has a smooth inlet bell for higher CFM, more efficiency, and a lower noise level.

NOTE: Use grounding cable for safety. (AM29)

Care and Maintenance

The Jet Fans have been designed to provide for rugged use with minimal maintenance. When maintenance is required, the fans can be easily disassembled and reassembled. Use Jet Fan Tool Kit (TX-JFTK) to aid with disassembly and reassembly. Use Jet Fan Repair Kit (TX-JFRK) to ensure original replacement parts are used.

CAUTION: Bleed compressed air from any service line prior to disconnecting. Disconnect compressed air service line from the fan prior to performing the following procedures. Use Safety Lock Cables (TX-SLC1) on the air inlet connector to avoid injury from an erratic hose whipping about if accidentally disconnected while under pressure.

JET FAN – DISASSEMBLE

1. To aid with disassembly, use Jet Fan Tool Kit (TX-JFTK).

2. Remove both Screens (TX-JF2004 or TX-JF2404) from Housing (TX-JF2001 or TX-JF2401).

3. Remove fan blade End Cap and housing End Cap (TX-JF2003). ***Note: The End Cap for the Fan Blade must remain with the blade. The Fan Blade End Cap was balanced with the blade. There is a timing mark on the hub and End Cap that was used for balancing.***

4. Use Bear Hug Socket (TX-JF2022) to remove Locking Bear Hug Nut (TX-JF2010). Use Shaft Removal Tool (TX-JF2026) to wedge between a fan blade and guide vane strut of housing in order to keep the fan blade from turning while removing Locking Bear Hug Nut. Use Bear Hug Socket Holder (TX-JF2025) to help hold Bear Hug Socket on Locking Bear Hug Nut while removing.

5. After the Locking Bear Hug Nut has been removed, make sure the Shaft (TX-JF2012) threads are clean and that no burrs or extrusions exist on the shaft threads. This will ease in the removal of the Fan Blade (TX-JF2002 or TX-JF2402).

6. Remove Fan Blade from Shaft using a bearing puller. Use Bearing Puller Shaft Insert (TX-JF2029) to provide a centering surface for the bearing puller. If a bearing puller is not available, a rubber mallet may be required to help extract Fan Blade from shaft. (From the reverse side, use Shaft Removal Tool (TX-JF2026) and rubber mallet with alternating blows on the Fan Blade Hub.)

7. Once the Fan Blade has been removed, the Large Snap Ring (TX-JF2008) is exposed. Use large snap ring pliers to remove.

8. On the opposite side, use a smaller set of snap ring pliers to remove Small Snap Ring (TX-JF2009).

9. Once the Small Snap Ring has been removed, the Lock Safety Shield (TX-JF2014) can be removed.

10. The Shaft and Bearing assembly can now be pressed out of the housing using Shaft Removal Tool. Do not apply extreme pressure while pressing or housing guide vanes many fracture.

11. Use Seal Removal Tool (TX-JF2030) to remove the Air Seal (TX-JF2006) from the housing. There are four holes drilled 90 degrees apart that allow the tip of the Seal Removal Tool to fit through for removal of the Air Seal. ***Note: On older units, there are only two holes.***

12. Remove Bearing Tolerance Rings (TX-JF2020) from inside bearing housing and dispose. ***Tolerance Rings cannot be reused.***

13. Use bearing puller to remove bearings from shaft. The Speedy Sleeve (TX-JF2007) will come off when the bearing is removed. Use Bearing Puller Shaft Insert (TX-JF2029) to aid with Bearing removal. ***Once removed, the Speedy Sleeve cannot be reused.***

14. Clean all necessary parts before reassembly.

JET FAN – REASSEMBLE

1. For best results, use Jet Fan Repair Kit (TX-JFRK) to ensure original replacement parts and all components meet original standards. TX-JFRK Repair Kit includes Tolerance Rings, Large and Small Snap Rings, Bearings, Locking Bear Hug Nut, Air Seal, Gaskets and Speedy Sleeve.
2. Make sure End Caps and fan hub and housing gasket surfaces are smooth and free from nicks.
3. Press one Bearing (TX-JF2005) on the side of the Shaft opposite the threaded end. ***Do not press a bearing on the threaded end at this point.***
4. Position the large flange of the Speedy Sleeve (TX-JF2007) toward the Bearing and place Speedy Sleeve over the Shaft. Use Speedy Sleeve Pressing Tool (TX-JF2028) to press the Speedy Sleeve into place. ***Note: The Speedy Sleeve should not touch the bearing.*** The Speedy Sleeve Pressing Tool will exactly position the sleeve and allow approximately ¼" between the sleeve and the bearing. Make sure the Speedy Sleeve is smooth. Any nicks in the sleeve could cause damage to the Air Seal (TX-JF2006),
5. Insert one Tolerance Ring (TX-JF2020) into inner most groove of bearing housing. ***Do not insert both Tolerance Rings at this point.***
6. Insert shaft containing one Bearing and Speedy Sleeve into bearing housing until it rests against the one installed Tolerance Ring.
7. The outer most Tolerance Ring can now be installed.
8. Place second Bearing over the Shaft and use Bearing & Shaft Pressing Tool (TX-JF2027) to press into bearing housing. Both bearings are pressed into place almost simultaneously. ***Note: Tolerance Rings are designed for one pressing only. Never attempt to press inner bearing through outer Tolerance Ring.***
9. Secure shaft assembly in housing with Large Snap Ring (TX-JF2008).
10. On the opposite side, insert Air Seal (TX-JF2006) into groove and seat firmly using Speedy Sleeve Pressing Tool (TX-JF2028) and rubber mallet.
11. Place Lock Safety Shield (TX-JF2014) over shaft.
12. Install Small Lock Ring (TX-JF2009) on end of Shaft.
13. Place Gasket (TX-JF2023) and End Cap (TX-JF2003) on housing and secure with Hex Socket Screw (TX-JF2019). Alternate tightening to insure proper air seal. ***Note: Make sure End Cap is not the one that goes with the Fan Blade.***
14. Place Shaft Key (TX-JF2013) into slot on Shaft and slide Fan Blade over Shaft.
15. Use rubber mallet to ensure that Fan Blade seats firmly against bearing.
16. ***Clean shaft threads before installing Locking Bear Hug Nut.*** Use Shaft Thread Cleaning Tool (TX-JF2031) and Cleaning Tool Wrench (TX-JF2033). This is important because aluminum from the Fan Blade will usually be caught between the threads when placing Fan Blade on Shaft. If this material is not removed prior to installing the Locking Bear Hug Nut, it may cause galling of the nut and not allow for proper tightening. If galling occurs, it may be necessary to cut the nut from the shaft which may also damage the shaft.
17. Tighten Locking Bear Hug Nut (TX-JF2010) on Shaft. Place Shaft Removal Tool (TX-JF2026) between the Fan Blade and guide vane strut of housing to keep blade from rotating during this process. Make sure the Locking Bear Hug Nut is tight against the blade. Use Bear Hug Socket Holder (TX-JF2025) to help keep Bear Hug Socket (TX-JF2022) firmly on Locking Bear Hug Nut while tightening. ***Note: Make sure the Fan Blade does not shake on shaft after tightening. Additional tightening is needed if any slack is noted.***
18. Install Gasket (TX-JF2023) and End Cap (TX-JF2003) on blade. Make sure to align timing marks of End Cap with the marks on the Fan Blade hub. Alternate tightening of Hex Socket Screws to insure proper air seal.
19. Remove Shaft Removal Tool from between blade and guide vane strut and check to see that fan blade turns freely.
20. Install both Fan Guard Screens (TX-JF2004 or TX-JF2404) and test.
21. Make sure Grounding Lug (AM7) is affixed to one of the fan guard screen bolts (TX-JF2015). The Grounding Lug is used with Grounding Clamp with 6' Wire (AM29) to discharge static during hazardous or explosive atmosphere use.