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FORM 610071
Revision B

TUBEMASTER® MODEL HA VARIABLE PITCH DRIVE INSTALLATION INSTRUCTIONS

There are two types of variable pitch motor pulleys used on HA fans. Examine your pulley; if the set screw that locks the pulley to the motor shaft is accessible on the outside of the pulley use METHOD A below. If the set screw is in the belt groove of the pulley use METHOD B below.

METHOD A

1. Loosen the set screw to allow one side of the motor pulley to rotate. See Fig. 1, set screw 1.
2. Turn pulley until it is fully closed.
3. Check chart on back for desired fan speed. *Open pulley the listed number of turns for your RPM. Tighten set screw - be sure set screw is on a flat before tightening.
4. Slide motor pulley onto the motor shaft and insert the square key into the keyway.
5. Leaving the motor pulley loose, put the belt(s) over the fan and motor pulleys.
NOTE: In some cases it will be helpful to remove the bearing cover for access to the fan pulley.
6. Loosen the set screw 2 and align the motor pulley so that it is even with the fan pulley and the belt(s) is straight.
7. Set belt tension and tighten set screw on motor pulley. See Fig. 1, set screw 2.
NOTE: To set belt tension, motor base jack screws and lock nuts are provided with each fan, they screw into the weld nuts on the motor base to set belt tension.
8. The belt should depress it's width when pressed firmly inward at midpoint between the two pulleys.

METHOD B

1. Slide the motor pulley onto the motor shaft. Use a straight edge to align the motor pulley.
2. Tighten the set screw that locks the pulley to the motor shaft. See Fig. 2, set screw 1.
3. Loosen the set screw to allow one side of the motor pulley to rotate. See Fig. 2, set screw 2.
4. Turn pulley until it is fully closed.
5. Check chart on back for your fan model and horsepower. Read across chart to your desired fan speed. *Top of columns show number of turns open, from full closed.
6. Tighten set screw - be sure set screw is on a flat before tightening. See Fig. 2, set screw 2.
7. Place belt(s) over fan pulley and motor pulley.
8. Check pulley alignment and if necessary loosen set screw 1 and realign so belt is straight on both pulleys.
9. Set belt tension.
NOTE: To set belt tension, motor base jack screws and lock nuts are provided with each fan, they screw into the weld nuts on the motor base to set belt tension.
10. The belt should depress its width when pressed firmly inward at midpoint between the two pulleys.

NOTE: Check belt tension after first 48 hours of operation and thereafter annually.

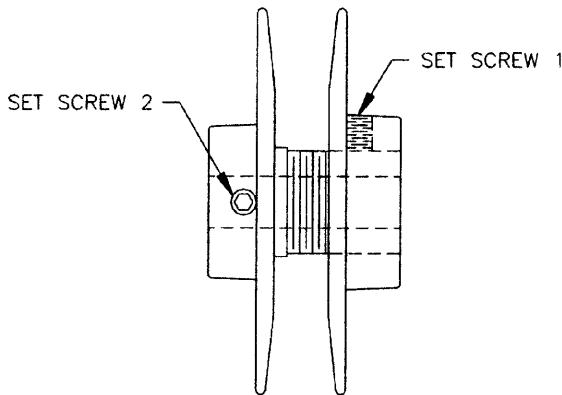


FIGURE 1

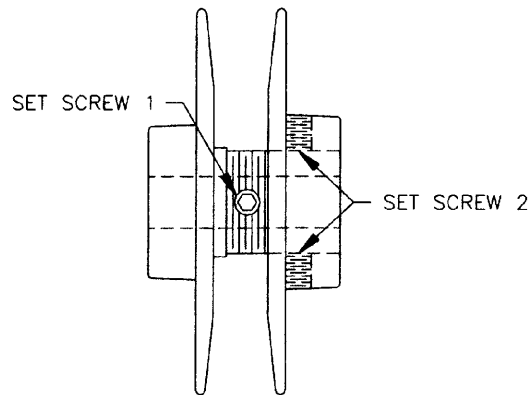


FIGURE 2

* ON DOUBLE GROOVE PULLEYS BOTH SIDES MUST BE SET AT THE SAME NUMBER OF TURNS.

RPM SELECTION TABLE ON PAGE 2.

TUBEMASTER® HA FANS - RPM SELECTION TABLE

MODEL	HP	NUMBER OF TURNS FROM FULL CLOSED										
		0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5
HA16E1	¼	1510	1455	1388	1320	1252	1185	1116	1050	980	913	845
HA16E	¼	1730	1650	1570	1495	1420	1342	1265	1190	1111	1035	958
HA16	⅓	1900	1838	1760	1688	1611	1539	1462	1388	1313	1238	1162
HA16	½	2180	2090	2000	1935	1863	1790	1726	1667	1588	1519	1450
HA16	¾	2500	1400	1300	2220	2135	2055	1972	1890	1810	1725	1642
HA18	⅓	1510	1450	1389	1332	1276	1213	1154	1096	1037	977	917
HA18	½	1730	1670	1612	1560	1502	1448	1393	1336	1280	1225	1170
HA18	¾	1980	1918	1850	1778	1723	1660	1598	1531	1470	1406	1340
HA18	1	2180	2100	2020	1940	1870	1800	1725	1655	1580	1510	1438
HA18	1 ½	2495	2430	2370	2300	2240	2175	2110	2050	1982	1919	1856
HA21	½	1355	1300	1242	1185	1130	1073	1018	960	902	846	790
HA21	¾	1580	1518	1465	1412	1360	1310	1258	1202	1151	1100	1048
HA21	1	1730	1670	1612	1560	1502	1448	1392	1336	1280	1225	1170
HA21	1 ½	1980	1915	1855	1790	1725	1660	1599	1534	1470	1407	1342
HA24	½	1090	1040	922	947	904	860	815	772	828	684	640
HA24	¾	1250	1190	1135	1094	1045	1000	955	906	860	814	767
HA24	1	1375	1325	1280	1238	1192	1150	1103	1060	1015	970	927
HA24	1 ½	1570	1518	1465	1411	1360	1308	1255	1202	1150	1100	1048
HA24	2	1730	1670	1612	1560	1502	1448	1392	1336	1280	1225	1170
HA24	3	1980	1921	1863	1805	1747	1688	1630	1572	1514	1455	1397
HA30	¾	856	814	780	749	716	685	652	628	590	558	526
HA30	1	942	907	878	848	818	787	756	726	696	666	635
HA30	1 ½	1078	1048	1017	985	955	924	894	861	831	801	770
HA30	2	1187	1150	1118	1082	1050	1015	980	946	912	878	845
HA30	3	1358	1320	1284	1248	1210	1184	1140	1100	1056	1028	990
HA30	5	1610	1573	1537	1500	1464	1427	1390	1354	1317	1281	1244
HA36	2	880	850	820	781	762	735	707	680	650	620	595
HA36	3	1007	987	960	932	905	878	850	821	795	768	740
HA36	5	1193	1155	1115	1082	1050	1013	980	945	913	880	845
HA42	1 ½	620	603	582	561	540	520	500	478	457	436	416
HA42	2	683	645	620	596	575	555	532	511	490	469	447
HA42	3	781	765	745	723	702	680	660	638	618	595	574
HA42	5	926	902	886	850	822	796	770	743	718	690	663
HA42	7 ½	1060	1040	1019	998	977	956	935	915	894	872	853
HA42	10	1170	1149	1127	1106	1085	1064	1042	1021	1000	979	957
HA48	1 ½	498	484	466	451	435	419	402	386	370	354	338
HA48	2	548	535	500	480	461	445	427	410	393	376	359
HA48	3	627	615	598	580	565	549	530	512	495	479	461
HA48	5	743	720	699	679	665	645	630	615	598	580	565
HA48	7 ½	851	840	823	806	790	774	768	742	725	710	693
HA48	10	936	920	903	887	870	855	840	822	805	790	772
HA54	1 ½	416	402	388	374	360	347	333	319	305	291	277
HA54	2	458	442	427	411	396	380	364	349	333	318	302
HA54	3	524	516	507	499	491	483	474	466	458	449	441
HA54	5	621	604	588	571	554	538	521	504	487	471	454
HA54	7 ½	711	697	682	668	654	640	625	611	597	582	568
HA54	10	783	768	754	739	724	710	695	680	665	651	636
HA60	5	528	515	503	490	478	465	452	440	427	415	402
HA60	7 ½		604	582	571	560	549	539	528	517	506	495
HA60	10	665	648	631	614	597	580	563	546	529	512	495
HA60	15	762	746	731	715	700	684	668	653	637	622	606