

MITSUBISHI AND SATOH TRACTOR HISTORY, PARTS AND SUPPORT BY ED KRAMPITZ, JR.

MITSUBISHI/SATOH HISTORY

Satoh: The Satoh company was quite old in Japan, and the gasoline-powered S650-G model dates back to the early 1960s. Along with the gasoline-powered Satoh models, Mitsubishi tractors were sold in the US as Satoh products in the 1970s-early 1980s. Satoh's US models had model numbers beginning with S followed by *three* numerals and often an animal name (example: S370 Beaver), with the suffix D indicating 4wd. Satoh officially merged with Mitsubishi on 1 February 1980, and Mitsubishi committed to supporting Satoh models with parts for at least 25 years after the merger. Leftover Satohs in US dealer stock were issued new Mitsubishi decals, and certain models continued to be sold into the 1980s as "Satoh by Mitsubishi". Many of the Satoh tractors sold here had 2-cylinder diesel engines made by Mitsubishi. Grey-market tractors, which are used Japanese-spec tractors imported from Japan, have appeared here under the Satoh and Mitsubishi names.

Mitsubishi ("Mitsu"): Mitsubishi made its own tractors as far back as the 1960s. In Japan and certain other markets, Mitsubishis were also labeled with other names including Suzue, VST, and Kumiai. Suzue was a separate brand, while VST and Kumiai were akin to farmers' cooperatives. Some of these have also shown up here as grey-market tractors. After the merger with Satoh, Mitsubishi sold tractors during the 1980s in the US under its own name, and those model numbers began with MT followed by *three* numerals (MT160, MT160D, etc.) with the suffix D meaning 4-wheel-drive. Most US-spec Mitsubishis used 3-cylinder diesels. For these tractors the Intertec manual *Mitsubishi Shop Manual M-1* for models MT160, MT160D, MT180, MT180D, MT180H,

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MT180HD, MT210, MT210D, MT250, MT250D, MT300, and MT300D, in paperback, ISBN 0872884422, can be ordered through conventional bookstores including www.amazon.com. Grey-market Mitsubishis labeled as Mitsubishis typically have model numbers beginning with D or MT followed by two or four numerals (examples: MT14, D2000), but current Mitsu production also uses three numerals. A model number decoder guide appears later, also covering Satoh and Suzue.

Also: Mitsubishi tractors were also sold as International Harvester (IH) and then as Case IH compacts in the US from 1982–1991. (Case merged with IH in 1985.) These were the 2x4/2x5 series (234, 235, etc.). Two Intertec volumes cover these tractors: *International Harvester Shop Manual IH-55* for models 234, 234 Hydro, 244, and 254, in paperback, ISBN 0872884376; *Case/International Shop Manual C-42* for models 235, 245, 255, 265, and 275, in paperback, ISBN 0872885704. (A third Intertec manual, IH-49, covers the IH 274 and 284 compacts that used Nissan diesel and Mazda gasoline engines and did not survive the merger with Case.) Since 1993 Mitsubishis have been sold in the US as the Cub Cadet 7xxx series (example: 7260). Dealers for these lines may be able to support some grey-market Mitsubishis.

For reference, the current Mitsubishi models for export are the MT200D, 20 hp; the MT260D, 26 hp; and the MT301D, 30 hp; all have 4wd. Mitsubishi offers many different tractors for the Japanese domestic market, as shown at < <http://www.mam.co.jp/showroom/index.html> >.

US MODELS

The following Satoh models were officially sold in the US. Yes, the Bison was sold as a gasoline and as a diesel model. Certain models continued to be sold as Mitsubishis for a while after the merger, with the S replaced by MT (example: S373 became MT373). Applicable known models are indicated; the MT372 was available until the late 1980s. Suffixes have been left off, and all engines are Mitsubishi unless otherwise indicated:

Satoh model	Engine block, description	Wheelbase, 2wd & 4wd mm/in
S370 Beaver	KE70, 669 cc 2-cyl diesel	1225/48.23; 1265/49.80
S372 Beaver II (also MT)	KE70, 669 cc 2-cyl diesel	1280/50.39; 1305/51.38
S373 Beaver III (also MT)	K3A, 776 cc 3-cyl diesel	1280/50.39; 1300/51.18
S470 Buck (also MT)	K3B, 849 cc 3-cyl diesel	1280/50.39; 1300/51.18
S550-G Elk	Mazda PB100, 987 cc 4-cyl gas	1490/58.66; no 4wd
S630 Bull (also MT)	KE130, 1246 cc 2-cyl diesel	1524/60.00; 1524/60.00
S650-G Bison	Mazda PB100, 987 cc 4-cyl gas OR Mazda TA/TB, 1169 cc 4-cyl gas	1535/60.43; no 4wd
S670 Bison (also MT)	K4D, 1305 cc 4-cyl diesel	1540/60.63; 1610/63.38
S750 Stallion (also MT)	Isuzu 3AB1-1, 1777 cc 3-cyl diesel	1815/71.46; 1870/73.62

The following Mitsubishi models were officially sold in the US during approximately 1984–1991, except for the MT280D, which is covered in the factory manual for the MT300 and may have been sold in Canada. The MT4501 had limited distribution. Except for the MT280D, suffixes have been left off:

Mitsubishi model	Engine block, description	Wheelbase, 2wd & 4wd mm/in
MT160	K3A, 776 cc 3-cyl diesel	1420/55.91; 1420/55.91
MT180	K3C, 900 cc 3-cyl diesel	1420/55.91; 1420/55.91
MT210	K3D, 979 cc 3-cyl diesel	1525/60.04; 1525/60.04
MT250	K3H, 1290 cc 3-cyl diesel	1525/60.04; 1525/60.04
MT280D	K3H, 1290 cc 3-cyl diesel	4wd only; 1595/62.80
MT300	K3M, 1496 cc 3-cyl diesel	1575/62.01; 1595/62.80
MT4501	4DQ5, 2084 cc 4-cyl diesel	1800/70.87; 1800/70.87

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The IH and Case IH 2x4/2x5 models were generally rebadged Mitsubishi. Here is a listing, not including the older 274 and 284 models referred to earlier that used other manufacturers' engines:

IH or Case IH model (years)	Engine block, description
234 (1982-1986)	K3B, 849 cc 3-cyl diesel
235 (1986-1990)	K3B, 849 cc 3-cyl diesel
244 (1982-1986)	K3D, 979 cc 3-cyl diesel
245 (1986-1990)	K3D, 979 cc 3-cyl diesel
254 (1982-1986)	K3E, 1061 cc 3-cyl diesel
255 (1986-1990)	K3E, 1061 cc 3-cyl diesel
265 (1987-1991)	K3H, 1290 cc 3-cyl diesel
275 (1986-1991)	K3M, 1496 cc 3-cyl diesel

The following Cub Cadet models, numbers 7xxx, are rebadged Mitsubishi. Years are approximate. The slashes indicate related models with differing final numerals: for example, "7200/5" means that 7200 and 7205 exist. Wheelbases are the same for 2wd and 4wd. Newer Cub Cadet models using Daihatsu diesel and Kawasaki gasoline engines (7252/4, 7264, 7304) are not included:

Cub Cadet model (years)	Engine block, description	Wheelbase, mm/in
7000, 7200/5 (1998-)	S3L, 1125 cc 3-cyl diesel	1470/57.87
7192/3/4/5 (1995-1997)	K3E, 1061 cc 3-cyl diesel	1470/57.87
7232/3/4/5 (1995-1997)	K3G, 1236 cc 3-cyl diesel	1650/64.96
7260/5 (1998-)	S3L2, 1318 cc 3-cyl diesel	1650/64.96
7272/3/4/5 (1995-1997)	K3M, 1496 cc 3-cyl diesel	1700/66.93
7300/5 (1998-)	K3M, 1496 cc 3-cyl diesel	1700/66.93
7360SS (1998-)	S4L2, 1758 cc 4-cyl diesel	1835/72.24

Cub Cadet tractor web page: < <http://www.cubcadet.com/servlet/BrandProduct?ID=16&CAT=8> >.

Finally, certain Bolens models sold in the late 1970s-early 1980s used Mitsubishi KE70, KE75, K3A, and K3B engines, but were otherwise Iseki tractors.

GREY-MARKET MODELS

I.D.: To identify the closest US-spec match for a grey-market Mitsubishi or Satoh model, start at the engine block. The engine designation and displacement are cast into many Mitsubishi diesel blocks. Some information may also appear on a data plate on the frame. As a rough guide to some tractors, those Mitsubishi D-series tractors with a model number under 1500 are often related to the Beaver. Those with model numbers between D1500 and D2350 are often related to the Bull. But there are exceptions, and certain grey-market models may not be closely related to any US-spec model. Other dimensions such as wheelbase may help a vendor to cross over a grey-market model. The frame number may also help and is typically stamped in large characters on the side of the frame under the driver's seat. Sometimes the year of manufacture is stamped on the wheel rims, but beware because dealers do change wheels. (Often these tractors are misrepresented as newer than they actually are.) The engine serial number--different from the frame number--is stamped on the block. To use the KE engine as an example, it is on the exposed top of the block between the two cylinders. Most tractors with D and ST prefixes are likely to date from the 1970s.

Decoding model numbers: Here is a rough guide, using as examples the MT1601D, MT200D, D2000 II, and Satoh ST2620. This covers most grey-market and even US-spec models:

MT	16	01	D	MT	20	0	D	D	20	00	II	ST	26	20
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3

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1. Prefix (not a complete list)

D: Mitsu domestic, 1970s-early 1980s

G followed by another letter: current Mitsu domestic

M: Suzue

MMT: current Mitsu domestic

MT: Mitsubishi Tractor, domestic and US-spec

MTE, MTX: Mitsu transitional models, some differences from same model without E or X

MTR: current Mitsu domestic

R: old Mitsu tractors, 1960s-early 1970s

S: US-spec Satoh

ST: Satoh Tractor, not US-spec

2. First (or only) 2 numerals

They indicate the approximate PTO horsepower rating on grey-market tractors. Note: This does not apply to US-spec Satoh models or the Mitsubishi-labeled versions (S372 or MT372, etc.), but does apply to the 1980s US-spec Mitsus (MT160, MT180, etc.). Example: MT4501 has 45 PTO hp.

3. Next 1 or 2 numerals (if any)

No extra numerals: late 1980s-1990s non-US Mitsus; for examples, MT17, MT25

0: 1980s US-spec Mitsus, plus recent export and domestic models

1-8: various recent domestic models

00: non-US Mitsu (mostly D and R prefixes), Satoh, and Suzue, 1960s-1980s

01: non-US Mitsu (mostly MT prefix), 1970s-1990s; MTxx01 is comparable with Dxx00

10: non-US Mitsu and Satoh: variant of -00 and -01 versions

20: non-US Satoh (ST prefix) with 2wd, 1970s-early 1980s; ST2320 is 2wd version of ST2340

40: non-US Satoh (ST prefix) with 4wd, 1970s-early 1980s; ST2340 is 4wd version of ST2320

50: non-US Mitsu and Satoh, 1970s-early 1980s; indicates "better" engine than -00 version with same power. Example: D1500 had 2-cylinder KE85; D1550 had 3-cylinder K3B.

4. Suffixes (not a complete list)

D: domestic and US-spec Mitsu: 4wd

FD: non-US Mitsu: 4wd

G: US-spec Satoh: gasoline engine

H: hydrostatic transmission

II: (Roman numeral) US-spec Beaver and non-US Mitsu (D prefix): superseded version without II. The D2000 is not the same as the D2000 II. Known grey-market models with II variants: D1500, D1600, D1800, D2000, D2500, D2600.

III: (Roman numeral) US-spec Beaver: intended to supersede II version

X: transitional model with changes from version without X

Manuals: After identifying the tractor and its closest US-spec match, consider getting the operator's/owner's, service/shop, and parts manuals for the US-spec version and the parts manual for the grey-market version. Parts manuals for the grey-market Mitsubishi and Satoh tractors are printed in Japanese and English, but other manuals for "greys" are generally not available in English. Vendors prefer that you specify a part number for a US-spec version.

Engines: Here is a list of engines used in Mitsubishi and Satoh tractors or closely related. B x S is piston bore and stroke. Related engines are grouped together, and horsepower ratings are rough and include any direct injection and turbocharged variants when a range is given. Engines are diesel and made by Mitsubishi Heavy Industries unless otherwise indicated. Typically, an engine used in a Mitsu tractor will have a suffix to designate a specific variant, such as "KE130-13B" or "K3M-D14R". Likewise, the Kubota engines listed use suffix letters depending on application. These suffixes are not accounted for here, and the purpose of this list is simply for engine and model identification. If no tractor application is given for a specific engine, that doesn't mean that no tractors use it, but

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that no tractor applications were known during compilation. This list is undoubtedly incomplete. The following series are older and are likely to be out of production: DQ, DR, KE, many Kx, SDT. (Note that Japanese tractor horsepower specifications always use the PTO power rating, not the slightly higher engine power rating at the flywheel. US-spec tractors usually give both ratings.)

Designation	# cyl./hp	Disp., cc	B x S, mm	Sample applications; comments
--D series--				
6D34	6/140-160	5861	104 x 115	Current GCR series
--DQ series--				
2DQ10	2/11-20	993	82 x 94	R1800, R2000
4DQ1, 11	4/40-68	1986	82 x 94	
4DQ3, 30	4/38-45	1490	77 x 80	D3850, ST3820
4DQ5, 50	4/40-45	2084	84 x 94	MT4501, MT43
4DQ7	4/40	2286	88 x 94	
--DR series--				
2DR5	2/20	1329	92 x 100	D2000 (not II)
2DR7	2/25	1417	95 x 100	D2500 (not II)
2DR10	2/13-22	1192	88 x 98	
4DR1, 10	4/50-75	2384	88 x 98	
4DR5,6,51,52	4/75-100	2659	92 x 100	
4DR7	4/85	2835	95 x 100	
--Kx series--				
K2AS	2/9	451	65 x 68	
K2A	2/10	517	65 x 78	
K2B	2/12	566	68 x 78	
K2C	2/13	600	70 x 78	
K3A	3/15-17	776	65 x 78	Beaver III, D1450, MT160
K3B	3/16-18	849	68 x 78	Buck, Case, MT1350FD
K3C	3/16-20	900	70 x 78	MT180, D1601, MT1601D
K3D	3/18-21	979	73 x 78	MT210, Case, MT17
K3E	3/19-21	1061	76 x 78	Case, Cub Cadet, MT18
K3F	3/21-26	1118	78 x 78	MTE2000, MT20
K3G	3/23	1236	82 x 78	Cub Cadet
K3H	3/25	1290	78 x 90	MT250, MT280, Case
K3M	3/27-30	1496	84 x 90	MT300, Case, Cub Cadet, MT301D
K4A	4/16	1035	65 x 78	D1650, ST1640
K4B	4/21	1133	68 x 78	MT1801
K4C	4/24	1200	70 x 78	D2050, ST2020, ST2320
K4D	4/30-38	1305	73 x 78	Bison, D2001, MT2001X
K4E	4/32	1415	76 x 78	MT21, MT23
K4F	4/35	1490	78 x 78	MT25
K4M	4/44	1995	84 x 90	
K4N	4/42-46	2290	90 x 90	Current MT408, MT468

--KE series--

Note: A number of Mitsubishi gasoline engines with KE designations were used in vehicles, and unrelated diesel engines with KE designations were used in industrial applications. They are not included here, as they are unlikely to have been used in tractors. Examples of these industrial engines include the KE25, KE65, and KE250.

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KE55	2/10	544	68 x 75	
KE70	2/15	669	73 x 80	Beaver, D1300, MT1301D; common
KE75	2/16-17	764	78 x 80	Bolens, D1500FD, ST1510
KE80	2/17	812	78 x 85	ST1500, ST1600
KE85	2/17-18	854	80 x 85	D1500, D1600
KE95	2/20-21	964	85 x 85	D1800 II, ST1800
KE130	2/18-25	1246	90 x 98	Bull, D2000 II, D2300; common
KE135	2/25	1302	92 x 98	D2500 II, ST2501
KE140	4/30	1305	73 x 78	D2600, MT2600, ST2620
KE150	4/35	1490	78 x 78	

--Lx series--

L2A	2/10	464	65 x 70	
L2C	2/13	538	70 x 70	
L2E	2/15	635	76 x 70	
L3A	3/15	696	65 x 70	
L3C	3/16	808	70 x 70	MT14, MTX13D, MMT15
L3E	3/17	952	76 x 70	MT15, MT16, MTX15D, MMT17

--SxL series--

S3L	3/20	1125	78 x 78.5	Cub Cadet, current MT200D
S3L2	3/23	1318	78 x 92	Cub Cadet, current MT260D
S4L	4/16-37	1500	78 x 78.5	Current MT231, MT291
S4L2	4/36	1758	78 x 92	Cub Cadet, current MT368

--SxQ series--

S4Q	4/45	2311	88 x 95	
S4Q2	4/50	2505	88 x 103	Current MT508

--SxS series--

S4S (-D, DT)	4/55-75	3331	94 x 120	Current MKM series (tracked)
S6S (-D, DT)	6/75-120	4996	94 x 120	Current MKM series (tracked)

--SDT series--

SDT75	1/8-15	760	96 x 105	Old R1500 single
SDT100	2/10-19	993	82 x 94	
SDT130	2/14-23	1246	90 x 98	Related to KE130?

Other manufacturers' engines used in Mitsubishi/Satoh tractors:

Isuzu 3AB1	3/38	1777	86 x 102	Stallion
Isuzu 4BD1	4/63-78	3856	102 x 118	MT6301
Kubota F5802	5/115-125	5832	109 x 125	Current GR series
Kubota V3300	4/49-89	3318	98 x 110	Current GV series
Kubota V4702	4/90-100	4665	109 x 125	Current GR series
Mazda PB100	4/17-27	987	68 x 68	S550-G, S650-G; GASOLINE
Mazda TA/TB	4/27	1169	70 x 76	S650-G; GASOLINE