

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

CLASSIFICATION ORDER 1891

FEBRUARY 02, 2010

PROJECT M-B192

The following classification changes will be effected by this order:

	<u>Class</u>	<u>Subclass</u>	<u>Art Unit</u>	<u>Ex'r Search Room</u>
<b>Abolished:</b>	192	85, 86, 87.1, 87.11- 87.19, 88, 91	3655	0S0001
<b>Established:</b>	192	48.601-48.609, 48.61, 48.611-48.619, 85.01- 85.09, 85.1, 85.11- 85.19, 85.2, 85.21-85.29, 85.3, 85.31- 85.39, 85.4, 85.41- 85.49, 85.5, 85.51- 85.59, 85.6, 85.61-85.63	3655	0S0001

The following classes are also impacted by this order:  
73, 74, 137, 188, 415, 418, 464

This order includes the following:

- A. CLASSIFICATION MANUAL CHANGES
- B. LISTING OF PRINCIPAL SOURCE OF ESTABLISHED AND DISPOSITION OF ABOLISHED SUBCLASSES
- C. CHANGES TO THE USPC-TO-IPC CONCORDANCE
- D. DEFINITION CHANGES AND NEW OR ADDITIONAL DEFINITIONS

CLASSIFICATION ORDER 1891

FEBRUARY 02, 2010

PROJECT M-B192

Project Leader(s):	Scott Haugland
Project Classifier(s):	
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Publications Specialist(s):	Yvonne Smith

48.6	....And another clutch-assembly having unirotationally engaging clutch elements	49	..Parallel vehicle wheels
48.601	..Having fluid pressure operator	50	...Free wheel
48.602	...Operator rotatable relative to its clutch-assembly	51	..Reversing
48.603	....Operator coaxial with its clutch-assembly	52.1	.Progressive engagement
48.604	.....Common or interconnected operator(s)	52.2	..Surface area
48.605	.....Operator between clutch-assemblies	52.3	...Yielding
48.606	....Axially spaced coaxial clutch-assemblies	52.4	..Variable force
48.607	....Axially spaced coaxial clutch-assemblies	52.5	...Initial engagement causes increase in applied force
48.608	...Plural fluid pressure operators forming nested pistons	52.6	..Yielding
48.609	..Axially spaced coaxial clutch-assemblies	53.1	..Frictional and positive
48.61	...Plural fluid pressure operators forming nested pistons	53.2	...Magnetic or electromagnetic operated friction clutch
48.611	....Operator coaxial with its clutch-assembly	53.3	...With blocker
48.612	.....Common or interconnected operator(s)	53.31	....Self-energizing
48.613	.....Operator between clutch-assemblies	53.32	....Interposed friction members
48.614	.....Operator between clutch-assemblies	53.33	....Member extending axially between friction surfaces
48.615	....Radially acting operator	53.331	.....Blocker on axially extending stepped pin
48.616	...Plural fluid pressure operators forming nested pistons	53.332	.....Resilient detent pin
48.617	....At least one operator coaxial with its clutch-assembly	53.34	...Outward tooth or lug on friction member
48.618	..Operator coaxial with its clutch-assembly	53.341	....With thrust member
48.619	....Radially spaced coaxial clutch-assemblies	53.342	.....Resilient thrust bar
48.7	..With means to actuate or deactuate clutch-assemblies sequentially	53.343	.....Resilient expander ring
48.8	..Associated with three or more shafts	53.35	...Inward tooth or lug on friction member
48.9	...Alternatively operative assemblies	53.36	...Radially movable blocker
48.91	....Having common clutch-element support	53.361	....Detent acts as blocker
48.92	..Including unirotationally engaging clutch-elements	53.362	.....Rocker lever actuates friction clutch
		53.363	....Radially movable friction element acts as blocker
		53.364	.....Resilient friction element
		53.4	...Lock for positive clutch
		53.5	...Axially projecting positive clutch
		53.51	...Cylindrical pin
		53.6	...Transversely moving positive clutch
		54.1	.Torque responsive
		54.2	..Hub clutch
		54.5	..Cam operated
		54.51	...Screw operated
		54.52	...Ball or roller type
		55.1	..With overload release coupling
		55.2	..With flexible shaft coupling permitting limited relative rotation
		55.3	...Separate resilient member between clutch element and its shaft

55.4	....Fluid damper	58.64	.....Coolant and clutching medium
55.5	....Coil spring coaxial with rotation axis	58.65	.....Ambient and clutching medium
55.51	.....Radially overlapping convolutions	58.66	.....Ambient and coolant
55.6	....Plural resilient members	58.67	.....Clutching medium
55.61	.....Coil springs with center line spaced from rotational axis	58.68	.....Ambient
55.62	.....Center line of coil springs parallel to rotational axis	58.681	.....Bi-metallic
55.7	....Coil spring with center line spaced from rotational axis	58.682	.....Spiral
56.1	..Overload release	58.683	.....Resilient or adjustable mounting feature
56.2	...Coil	58.684	.....Mounting feature
56.3	...Fluid-operated clutch	58.7	....Pump-out feature
56.31	....Axially engaged	58.8	....Specific valve
56.32	.....Positive	58.9	...Radial vane
56.33	.....Ball or roller	58.91	....Vaness on inner member
56.4	...Magnetic or electromagnetic	58.92	.....Spring-biased
56.41	....Axially engaged	59	..Axially movable piston
56.42	.....Positive	60	..Transversely movable piston
56.43	.....Ball or roller	61	..Gear-pump type
56.5	...Clutch elements remain disengaged after overload corrected	62	.Plow-lifting type
56.51	....Having separate latch to hold clutch elements disengaged	63	.Free-engine type
56.52	.....Axially engaged	64	.Velocipede free wheel
56.53	.....Positive	65	.Axially and transversely engaging
56.54	.....Ball or roller	66.1	.Axially engaging
56.55	....Axially engaged	66.2	..Conical or frustoconical
56.56	.....Positive	66.21	...Plural radially spaced surfaces
56.57	.....Ball or roller	66.22	...Spring engaged
56.6	...Axially engaged	66.23	...Spring released
56.61	....Positive	66.3	..Planar radially extending
56.62	.....Ball or roller	66.31	...Spring engaged
54.3	..Fluid operated	66.32	...Spring released
54.4	..Magnetic or electromagnetic	69	..Positive
57	.Fluent material and mechanical	69.1	...Pivoting positive clutch element
58.1	.Fluent material	69.2	...Plunger disconnect
58.2	..Fluid	69.3	...Pilot pawl
58.3	...Vane clutch	69.4	...Wheel hub clutched to axle
58.4	...Viscous shear	69.41	....Fluid pressure
58.41	....Multiple plate	69.42	....Electromagnetic
58.42	.....Variable gap or volume	69.43	....Manual
58.43	....Variable gap or volume	69.5	...Ball or roller
58.5	....Separate reservoir	69.6	...Cylindrical pin
58.6	.....Automatic regulation	69.61	....Axial pin on only one member
58.61	.....Magnetic or electric	69.62	.....Pin engages aperture in other member
58.62	.....Temperature and speed	69.63	....Radial pin
58.63	.....Temperature	69.7	...Axial-radial
		69.71	....Axially extending projection engages aperture
		69.8	...Axial-axial

69.81	....Sawtooth			.Transversely engaged
69.82	....Square tooth	71		..Positive
69.83	.....With lead-in	72		..Interior and exterior
69.9	...Radial-radial	73		...Opposing
69.91	....Outward projection on movable member	74		..Interior
70	..Spreading	75		...Expanding
70.11	..Interposed, mating clutch-elements	76		....Radial
70.12	...With means to cool or lubricate clutch parts	77		....Split ring
70.13	...With removable or replaceable or interchangeable clutch parts	78		.....Cam operated
70.14	...Including surface characteristics of clutch-element	79		..Exterior
70.15	....Axially tapered mating surfaces	80		...Strap
70.16	...With torque connection between clutch-element and its shaft	81 R		....Multiple folds
70.17	....Resilient torque connection (e.g., for damping vibration)	81 C		....Coil
70.18	.....Including chordally disposed connection	82 R		.Operators
70.19	....Axially slidable connection	83		..Multiple for same clutch
70.2	.....Spline connection for multiple clutch-elements	84.1		..Electric or magnetic
70.21	...With means to move multiple clutch-elements axially and sequentially	84.2		...Plural coils
70.22	...With means to move clutch-element axially and latch into engaged or disengaged position	84.21		....Plural armatures
70.23	...With cam or wedge contacting clutch-element or pressure plate for axial movement thereof	84.3		...Including permanent magnet
70.24	....By cam surface on bell-crank	84.31		....And electromagnet
70.251	...With adjustable means to move clutch-element axially (e.g., to compensate for wear)	84.4		...Electrostatic
70.252	....Automatic	84.5		...Air gap adjustment
70.26	....Including plural adjusting screws (e.g., to equalize pressure angularly)	84.51		....Automatic
70.27	...With spring means to move clutch-element axially	84.6		...Rotary electric motor is clutch actuator
70.28	....To separate engaged clutch-elements	84.7		..Mechanical force increasing means
70.29	....And actuator lever pivoted on pressure plate	84.8		...Operator for transversely engaging elements
70.3	...With actuator lever pivoted on pressure plate or back plate to move clutch-element axially	84.81		....Coil spring
		84.9		...Operator for axially engaging elements
		84.91		....Interposed friction elements
		84.92		....Positively engaging elements
		84.93		....Magnetic flux path spaced from engaging elements
		84.94		....Specified torque transmitting spring
		84.941		.....Nonmetallic
		84.95		....With slip rings
		84.951		.....With pulley or gear
		84.96		....Fixed concentric coil
		84.961		....With pulley or gear
		85.01		..Fluid pressure
		85.02		...Operator force derived from clutch input or output
		85.03		...Elastic (e.g., diaphragm, pneumatic tube)
		85.04		....Rotating with clutch input or output
		85.05		.....And causing purely axial movement
		85.06		.....Including flexible friction discs

85.07	.....Plural oppositely acting elastic operators	85.34	.....Cushioning element between piston and friction element
85.08	.....Clutch has flat friction surfaces	85.35	.....Operator acts on friction elements via diaphragm spring or lever
85.09	.....More than two friction elements	85.36	.....Electric or magnetic release
85.1	.....Plate or diaphragm spring release	85.37	.....Fluid released clutch
85.11	.....Clutch has positively engaging clutch members	85.38	.....And fluid pressure engaged
85.12	.....And causing purely radial movement	85.39	.....Spring released clutch
85.13	.....Elastic operator integral with radially outer clutch member	85.4	.....Release spring between discs
85.14	....Rotatable relative to clutch input and output	85.41	.....Coil spring
85.15	.....And causing purely axial movement	85.42	.....Encircling clutch axis of rotation
85.16	.....And causing purely radial movement	85.43	.....Having particular friction element structure
85.17	...Piston and cylinder operator rotating with clutch input or output	85.44	.....Having particular piston seal
85.18	....Positive clutch	85.45	.....Piston has interrupted engagement face
85.19	....Friction clutch	85.46	.....Piston has non-planar engagement face
85.2	.....Having friction elements movable axially only	85.47	....Having radially displaceable friction surface
85.21	.....Having conical or frustoconical friction surfaces (e.g., cone clutch)	85.48	...Operator rotatable relative to clutch input and output
85.22	.....Plural radially spaced frustoconical surfaces	85.49	...And aligned with clutch axis of rotation
85.23	.....Having flat friction surfaces	85.5	....Operator acts on clutch through push rod extending coaxially through input or output shaft
85.24	.....More than two friction elements	85.51	....Operator acts on clutch via diaphragm spring or lever
85.25	.....Including balance chamber	85.52	.....Pull-to-release type clutch
85.26	.....Cam mechanism between piston and friction element	85.53	....Details of fluid operator
85.27	.....Auxiliary exhaust or relief passage from piston chamber	85.54	.....Having particular seal
85.28	.....Fluid escape from piston chamber by rotation-induced pressure	85.55	....Details of master cylinder
85.29	.....In piston	85.56	...Operator spaced from and parallel to clutch axis of rotation
85.3	.....Valve in passage	85.57	....Fluid released clutch
85.31	.....Valve in passage	85.58	.....By vacuum
85.32	.....Variable fluid contacting piston area	85.59	....Details of fluid operator
85.33	.....Axially stationary piston, moving cylinder	85.6	....Details of master cylinder
		85.61	...Cooling or lubricating
		85.62	...Having wear compensator
		85.63	...Including fluid pressure control
		89.1	..Weight operated
		89.2	..Spring engaged
		90	...Electric release

- 89.21 ...Cam release
  - 89.22 ...Belleville disc spring
  - 89.23 ....Push-type
  - 89.24 ....Pull-type
  - 89.25 ....Geometric configuration
  - 89.26 ...Plural coil springs spaced from clutch axis
  - 89.27 ...Coil spring coaxial to clutch axis
  - 89.28 ....Transversely engaged
  - 89.29 ...Quick throw spring
  - 92 ..One-direction apply and release
  - 93 R ..Cam
  - 93 A ...Axially thrusting cams rotatable about clutch axis
  - 93 B ...Axially moving cam acting on pivoted lever
  - 93 C ...Axially moving cam acting on transversely moving wedge or clutch member
  - 94 ..Screw
  - 95 ..Handwheel
  - 96 ..Central pin
  - 97 ...Screw operated
  - 98 ..Shipper saddles
  - 99 R ..Lever systems
  - 99 A ...Levers mounted on axially engaging clutch
  - 99 B ...Levers mounted on transversely engaging clutch
  - 99 S ...Stationary levers
  - 100 ..Follow-up
  - 101 ..Releasing
  - 102 ..Check of driven member
  - 103 R ..Speed responsive
  - 104 R ...Fixed-speed release
  - 104 B ....Transversely engaged-interior
  - 104 C ....Transversely engaged-exterior
  - 104 F ....Fluid clutches and operators
  - 105 R ...Fixed-speed engagement
  - 105 A ....Centrifugal (fluid or powder) nonpivoted weights (radially movably or slidable) i.e., mercury clutch
  - 105 B ....Axially engaged with nonpivoted weights-weights movable radially or slidable
  - 105 BA ....Transversely engaged with nonpivoted weights
  - 105 BB ....Transversely engaged positive with nonpivoted weights
  - 105 C ....Axially engaged with pivoted weights
  - 105 CP ....Weights pivoted on axis parallel to clutch axis-axially engaged
  - 105 CS ....Single pair clutching elements axially engaged with pivoted weights
  - 105 CD ....Transversely expanding clutch with pivoted weights
  - 105 CE ....Transversely engaged-pivoted weights and clutching elements movable separately
  - 105 CF ....Transversely contracting
  - 105 F ....Fluid controls for centrifugal clutches
  - 106 R ...Release
  - 106 F ....Devices to prevent fluid clutches from being operated by centrifugal forces acting on fluid
  - 103 A ...Centrifugal operated, axially engaged
  - 103 B ...Centrifugal operator transversely engaged
  - 103 C ...Acceleration and inertia responsive
  - 103 F ...Fluid operated
  - 103 FA ...Fluid pressure engaged with centrifugal valve
  - 82 P ..Rack and pinion operator
  - 82 T ..Temperature operator
  - 30 W .Warning, indicating, and signal devices
  - 30 V .Vibration dampers
- ELEMENTS**
- 200 .Clutch element resiliently carried on hub
  - 201 ..Speed-responsive
  - 202 ..Manually adjustable
  - 203 ..Coil spring detail
  - 204 ..Specified bushing
  - 205 ..Separate seat detail
  - 206 ..Relatively axially movable hub sections
  - 207 ..Circumferential resilience
  - 208 ...With fluid damping
  - 209 ...Nonmetallic
  - 210 ....Interposed friction element
  - 210.1 .....Biasing means
  - 211 ....And coil spring
  - 212 ...Coil spring
  - 213 ....Plural helical coil spring damping stages
  - 213.1 .....Plural axially spaced springs
  - 213.11 .....Interposed friction element

213.12	.....Biasing means	111.4	....Having clearance sensor bridging gap between clutch members and moveable only during engagement
213.2	.....Plural radially spaced springs in a common radial plane	111.5	...Relatively rotatable cam rings
213.21	.....Interposed friction element	111.6	...Threaded element centered on clutch axis
213.22	.....Biasing means	111.7	....Threaded in clutch cover
213.3	.....Interposed friction element	112	.Casings
213.31	.....Biasing means	113.1	.Lubricating, insulating, or cooling
214	....Interposed friction element	113.2	..Air cooling
214.1	.....Biasing means	113.21	...Heat radiating structure
107 R	.Engaging surfaces	113.22	...Grooved surfaces
108	..Positive	113.23	...Air directing structure
107 M	..Material	113.24	....Rotating cover
107 T	..Transversely engaging	113.25	....Spring
107 C	..Clutch plate axially compressible	113.26	....Clutch plate
109 R	.Thrust members, retarders, and stops	113.3	..Liquid cooled or lubricated clutch surfaces
109 A	..Resilient operators and pressure plates	113.31	...Entire coolant path is spaced from clutch surfaces
109 B	..Resilient backing plates	113.32	...Overrunning clutch
109 F	..Cushioning devices for fluid operators	113.33	...Positive
109 D	..Dashpot	113.34	...Lubricant or coolant between engaging surfaces
110 R	.Shafts, bearings, and adjusting devices	113.35	....With change of coolant flow during disengagement
110 B	..Bearings	113.36	....Grooved surfaces
110 S	..Shafts for removable clutches or discs	113.4	..Thermal insulating
111.1	.Wear compensators	113.5	..Lubrication of ancillary clutch parts
111.11	..Compensator in actuating mechanism outside of the clutch (EPO)	114 R	.Locks
111.12	...Automatic	114 T	..Interlocking clutch teeth or splines
111.13	..Compensator in or near release bearing (EPO)	115	.Supports
111.14	...Automatic	116.5	<b>STOP MECHANISM</b>
111.15	..Compensator on or inside clutch cover (e.g., acting on diaphragm or pressure plate) (EPO)	125 R	.Material control
111.16	...Automatic	126	..Sheet material
111.17	....Worm mechanism	127	...Electrical
111.18	....Relatively rotatable cam rings	128	...Pneumatic
111.19	.....Between cover and diaphragm spring	125 A	..Power stop-material control-electrical
111.2	.....Between diaphragm spring and pressure plate	125 B	..Mechanical
111.3	.....Having clearance sensor bridging gap between clutch members and moveable only during engagement	125 C	..Pneumatic
		125 D	..Granular material
		125 E	..Work start
		125 F	..Length of material stop
		129 R	.Safety device
		130	..Hand protector
		131 R	...Two hand
		131 H	....Hand and foot
		132	...Delayed action drive
		133	..Automatic guard

134 ...Punch-press type  
 135 ...Cover  
 136 ...Centrifugal-machine type  
 137 ...Disabled transmission  
 129 A ..Electrical  
 129 B ..Pneumatic  
 138 ..Limit stop  
 139 ..Rotary-member control  
 140 ...Speed responsive  
 141 ...Screw  
 142 R ...Electrical  
 142 A ...Radio tuner type  
 143 ..Reciprocating-member control  
 144 ..Drive release and brake  
 145 ..Multiple clutch  
 146 ..Change speed  
 147 ..Speed responsive  
 148 ..Positive stop  
 149 ...Cushioned  
 150 ..Overload release

**FOREIGN ART COLLECTIONS**FOR 000 **CLASS-RELATED FOREIGN DOCUMENTS**

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

**CLUTCHES (192/30)**

..Operators (192/82 R)  
 FOR 100 ..Electric (192/84 R)  
 FOR 101 **TRANSMISSION CONTROL AND BRAKE (192/4 R)**  
 FOR 102 ..Back-pedaling brake (192/5)  
 FOR 103 ..Hub brake (192/6 R)  
 FOR 104 ...With change speed transmission (192/6 A)  
 FOR 105 ...Rotatable axle (192/6 B)  
 FOR 106 ..Automatic brake (192/7)  
 FOR 107 ..Responsive to drive release (192/8/R)  
 FOR 108 ...Cable (192/8 A)  
 FOR 109 ...Coil brake (192/8 C)  
 FOR 110 ..Electric control (192/9)  
 FOR 111 ..Belt shipper (192/10)

FOR 112 ..Belt tightener (192/11)  
 FOR 113 ..Automatic type (192/4 A)  
 FOR 114 ..Internal resistance brake (192/4 B)  
 FOR 115 ..Forward and reverse gearing (192/4 C)

**CLUTCHES (192/30)**

..Axially engaging (192/66.1)  
 ..Interposed, mating clutch-elements  
 FOR 116 ...With adjustable means to move clutch-element axially (e.g., to compensate for wear) (192/70.25)

**ELEMENTS**

FOR 117 ..Wear compensators (192/111)  
**CLUTCHES (192/30)**  
 ..Operators (192/82 R)  
 FOR 118 ..Fluid pressure (192/85 R)  
 FOR 119 ...Double acting (192/86)  
 FOR 120 ...Multiple clutches (192/87.1)  
 FOR 121 ...Having independent operators (192/87.11)  
 FOR 122 ....Responsive to rotational speed of clutch-element (192/87.12)  
 FOR 123 ....With selective distributor for fluid pressure (192/87.13)  
 FOR 124 ....Alternatively operative clutches (192/87.14)  
 FOR 125 ....Clutches coaxial with operators (192/87.15)  
 FOR 126 .....Common or interconnected operator(s) (192/87.16)  
 FOR 127 .....Operator between clutches (192/87.17)  
 FOR 128 ....With selective distributor for fluid pressure (192/87.18)  
 FOR 129 .....Having neutral position (192/87.19)  
 FOR 130 ...Flexible motor (192/88 R)  
 FOR 131 ...Flexible fluid motor-axially engaged (192/88 A)  
 FOR 132 ...Radially engaged (192/88 B)  
 FOR 133 ...Axially engaging-rotating motor and clutch (192/85 A)  
 FOR 134 ...Axially engaging clamping rotating motor and clutch (192/85 AA)  
 FOR 135 ...Axially engaging spreading rotating motor and clutch (192/85 AB)  
 FOR 136 ...Transversely engaging rotating motor and clutch (192/85 AT)

- FOR 137 ...Clutch and nonrotating motor  
(192/85 C)
- FOR 138 ...Clutch and nonrotating motor  
(192/85 CA)
- FOR 139 ...Centrifugal fluid clutches  
(192/85 F)
- FOR 140 ...Vacuum clutches and operators  
(192/85 V)  
..Spring engaged (192/89.2)
- FOR 141 ...Fluid release (192/91R)
- FOR 142 ...Motor concentric with clutch  
shaft (192/91 A)

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SOURCE CLASSIFICATION(S) OF PATENTS  
IN NEWLY ESTABLISHED SUBCLASSES REPORT

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<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
192/106 R	1	192/85 AA	262
192/48.601	1	192/87.11	56
	1	192/87.12	8
	2	192/87.1	8
	3	192/85 R	139
	6	192/87.18	9
	11	192/87.19	23
	17	192/87.13	54
192/48.602	1	192/87.13	54
	2	192/87.11	56
	2	192/87.14	10
192/48.603	1	192/85 CA	145
	4	192/87.11	56
192/48.604	1	192/87.17	33
	4	192/87.16	11
192/48.605	1	192/87.11	56
192/48.606	1	192/87.11	56
	1	192/87.15	34
192/48.607	1	192/85 AA	262
	1	192/85 C	51
	1	192/87.1	8
	1	192/87.11	56
	1	192/87.18	9
	2	192/86	63
	2	192/87.14	10
	3	192/87.13	54
	3	192/87.19	23
192/48.608	1	192/87.13	54
192/48.609	1	192/85 AT	40
	1	192/87.1	8
	1	192/87.18	9
	1	192/87.19	23
	3	192/87.15	34
	5	192/87.13	54
192/48.61	1	192/85 AA	262
	1	192/87.17	33
	3	192/87.11	56
192/48.611	1	192/85 A	45
	1	192/86	63
	1	192/87.1	8
	1	192/87.12	8
	1	192/87.16	11
	1	192/87.17	33

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SOURCE CLASSIFICATION(S) OF PATENTS  
IN NEWLY ESTABLISHED SUBCLASSES REPORT

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<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
	2	192/87.19	23
	4	192/88 A	83
	6	192/87.13	54
	7	192/85 AA	262
	15	192/87.15	34
	17	192/87.11	56
192/48.612	1	192/87.15	34
	1	192/87.17	33
	2	192/86	63
	6	192/87.16	11
192/48.613	1	192/85 R	139
	1	192/86	63
	1	192/87.11	56
	1	192/87.15	34
	1	192/87.18	9
	1	192/87.19	23
	28	192/87.17	33
192/48.614	1	192/86	63
	1	192/87.1	8
	2	192/85 AA	262
	2	192/87.14	10
	4	192/87.12	8
	5	192/87.15	34
	8	192/87.11	56
	8	192/87.13	54
192/48.615	1	192/86	63
	1	192/87.13	54
	1	192/87.14	10
	2	192/87.15	34
192/48.617	1	192/87.11	56
192/48.618	1	192/85 AA	262
	1	192/85 AB	25
	1	192/87.19	23
	2	192/87.12	8
	2	192/87.13	54
	2	192/87.15	34
	8	192/87.11	56
192/48.619	1	192/85 AA	262
	6	192/87.11	56
192/76	1	192/91 R	124
192/85.01	1	192/85 AA	262
	1	192/85 C	51
	1	192/86	63

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<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
	1	192/87.11	56
	1	192/91 R	124
	27	192/85 R	139
192/85.02	1	192/85 AB	25
	1	192/85 C	51
	1	192/85 CA	145
	1	192/86	63
	1	192/88 A	83
	2	192/85 A	45
	2	192/88 B	60
	3	192/85 R	139
	5	192/85 AT	40
	9	192/85 F	14
	28	192/85 AA	262
192/85.04	1	192/85 V	10
	1	192/88 A	83
	2	192/88 B	60
192/85.05	1	192/85 A	45
	3	192/85 AA	262
	27	192/88 A	83
192/85.06	1	192/85 V	10
	2	192/88 A	83
192/85.07	1	192/85 CA	145
	3	192/85 AA	262
	3	192/88 A	83
192/85.08	1	192/85 A	45
	1	192/85 AA	262
	1	192/85 V	10
	3	192/88 A	83
192/85.09	1	192/87.15	34
	1	192/88 R	2
	2	192/85 R	139
	2	192/91 A	72
	4	192/85 AA	262
	5	192/85 AB	25
	28	192/88 A	83
192/85.1	1	192/85 CA	145
192/85.11	2	192/88 A	83
192/85.12	1	192/85 AT	40
	1	192/88 A	83
	34	192/88 B	60
192/85.13	1	192/85 R	139
	1	192/86	63

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SOURCE CLASSIFICATION(S) OF PATENTS  
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Generated by Data Control Division

<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
	1	192/87.13	54
	1	192/88 R	2
	1	192/91 R	124
	22	192/88 B	60
192/85.14	4	192/91 R	124
192/85.15	1	192/86	63
	3	192/85 CA	145
	3	192/85 V	10
	3	192/91 A	72
	8	192/91 R	124
	11	192/88 A	83
192/85.16	1	192/86	63
192/85.17	1	192/85 R	139
192/85.18	1	192/85 AT	40
	1	192/85 CA	145
	2	192/85 R	139
	2	192/91 A	72
	4	192/86	63
	6	192/85 A	45
192/85.2	2	192/91 A	72
192/85.21	1	192/85 AT	40
	1	192/87.15	34
	1	192/91 R	124
	3	192/85 AB	25
	3	192/85 R	139
	3	192/86	63
	5	192/85 AA	262
	8	192/91 A	72
	10	192/85 A	45
192/85.22	1	192/85 AA	262
	2	192/85 A	45
	6	192/85 AB	25
	7	192/86	63
192/85.23	1	192/85 AA	262
	1	192/85 R	139
	1	192/86	63
	4	192/91 A	72
	15	192/85 A	45
192/85.24	1	192/85 CA	145
	1	192/85 F	14
	1	192/86	63
	2	192/85 R	139
	3	192/85 C	51

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SOURCE CLASSIFICATION(S) OF PATENTS  
IN NEWLY ESTABLISHED SUBCLASSES REPORT

Generated by Data Control Division

<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
	26	192/85 AA	262
192/85.25	2	192/86	63
	11	192/85 AA	262
192/85.26	2	192/85 AA	262
192/85.27	1	192/85 AA	262
	1	192/85 R	139
	1	192/86	63
192/85.28	1	192/85 AA	262
	1	192/85 F	14
	1	192/85 R	139
192/85.29	1	192/86	63
	5	192/85 AA	262
192/85.3	1	192/86	63
	1	192/87.17	33
	11	192/85 AA	262
192/85.31	1	192/85 AA	262
	1	192/85 AB	25
192/85.32	1	192/86	63
	5	192/85 AA	262
192/85.33	1	192/85 R	139
	1	192/91 R	124
	2	192/85 F	14
	2	192/91 A	72
	4	192/86	63
	8	192/85 AA	262
192/85.34	1	192/86	63
	24	192/85 AA	262
192/85.35	6	192/85 AA	262
192/85.36	1	192/85 AA	262
192/85.37	1	192/86	63
	2	192/85 AA	262
	2	192/91 R	124
	4	192/91 A	72
192/85.38	2	192/86	63
	3	192/85 AA	262
192/85.39	1	192/85 A	45
	1	192/85 F	14
	3	192/85 R	139
	10	192/85 AA	262
192/85.4	1	192/85 AB	25
	1	192/85 R	139
	8	192/85 AA	262
192/85.41	1	192/85 A	45

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<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
	3	192/85 AB	25
	3	192/85 R	139
	38	192/85 AA	262
192/85.42	1	192/85 A	45
	1	192/85 CA	145
	1	192/85 R	139
	14	192/85 AA	262
192/85.43	2	192/85 AB	25
	4	192/85 AA	262
192/85.44	3	192/85 AA	262
192/85.45	6	192/85 AA	262
192/85.46	1	192/85 AA	262
192/85.47	1	192/86	63
	1	192/87.14	10
	1	192/91 R	124
	2	192/85 AB	25
	2	192/87.13	54
	2	192/91 A	72
	28	192/85 AT	40
192/85.48	1	192/91 A	72
	2	192/91 R	124
	3	192/86	63
	6	192/85 C	51
	7	192/85 R	139
192/85.49	1	192/85 AA	262
	1	192/85 C	51
	1	192/85 R	139
	2	192/85 A	45
	3	192/91 A	72
	22	192/85 CA	145
192/85.5	1	192/85 A	45
	1	192/85 AA	262
	2	192/91 A	72
	4	192/85 CA	145
192/85.51	1	192/85 AA	262
	1	192/87.1	8
	2	192/85 C	51
	3	192/85 R	139
	3	192/86	63
	5	192/91 R	124
	14	192/91 A	72
	60	192/85 CA	145
192/85.52	1	192/86	63

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SOURCE CLASSIFICATION(S) OF PATENTS  
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Generated by Data Control Division

<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
	1	192/91 R	124
	11	192/91 A	72
	13	192/85 CA	145
192/85.53	1	192/85 A	45
	1	192/85 AT	40
	1	192/85 C	51
	1	192/85 V	10
	1	192/87.15	34
	1	192/91 R	124
	2	192/85 R	139
	2	192/86	63
	6	192/91 A	72
	17	192/85 CA	145
192/85.54	1	192/91 R	124
	4	192/91 A	72
	13	192/85 CA	145
192/85.56	1	192/85 R	139
	1	192/91 R	124
	2	192/86	63
	2	192/91 A	72
	3	192/85 CA	145
	5	192/85 C	51
192/85.57	1	192/85 V	10
	3	192/85 R	139
	6	192/85 C	51
	6	192/86	63
	25	192/91 R	124
192/85.58	1	192/85 R	139
	1	192/85 V	10
	66	192/91 R	124
192/85.59	1	192/85 AT	40
	1	192/85 CA	145
	1	192/86	63
	1	192/87.13	54
	1	192/91 R	124
	4	192/85 R	139
	16	192/85 C	51
192/85.6	1	192/91 R	124
	3	192/85 C	51
192/85.61	1	192/85 AT	40
	1	192/87.11	56
	3	192/87.19	23
	4	192/85 R	139

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SOURCE CLASSIFICATION(S) OF PATENTS  
IN NEWLY ESTABLISHED SUBCLASSES REPORT

Generated by Data Control Division

<u>New Classification</u>	<u>Number of ORs</u>	<u>Source Classification</u>	<u>Number of ORs</u>
192/85.62	2	192/85 R	139
192/85.63	1	192/85 CA	145
	1	192/85 V	10
	1	192/86	63
	1	192/87.15	34
	1	192/87.19	23
	2	192/87.14	10
	4	192/85 C	51
	6	192/87.13	54
	7	192/85 AA	262
	52	192/85 R	139
192/94	1	192/85 CA	145
418/171	1	192/85 R	139
477/18	1	192/87.1	8
74/733.1	1	192/85 R	139
92/23	1	192/85 C	51

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DISPOSITION CLASSIFICATION(S) OF PATENTS  
FROM ABOLISHED SUBCLASSES REPORT

Generated by Data Control Division

<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
192/85 A	45	192/85.5	1
		192/85.02	2
		192/85.05	1
		192/85.08	1
		192/85.18	6
		192/85.21	10
		192/85.22	2
		192/85.23	15
		192/85.39	1
		192/85.41	1
		192/85.42	1
		192/85.49	2
		192/85.53	1
		192/48.611	1
		192/85 C	51
192/85.6	3		
192/85.01	1		
192/85.02	1		
192/85.24	3		
192/85.48	6		
192/85.49	1		
192/85.51	2		
192/85.53	1		
192/85.56	5		
192/85.57	6		
192/85.59	16		
192/85.63	4		
192/48.607	1		
192/85 F	14		
		192/85.24	1
		192/85.28	1
		192/85.33	2
		192/85.39	1
192/85 R	139	74/733.1	1
		192/85.4	1
		192/85.01	27
		192/85.02	3
		192/85.09	2
		192/85.13	1
		192/85.17	1
		192/85.18	2
		192/85.21	3
		192/85.23	1

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Generated by Data Control Division

<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
		192/85.24	2
		192/85.27	1
		192/85.28	1
		192/85.33	1
		192/85.39	3
		192/85.41	3
		192/85.42	1
		192/85.48	7
		192/85.49	1
		192/85.51	3
		192/85.53	2
		192/85.56	1
		192/85.57	3
		192/85.58	1
		192/85.59	4
		192/85.61	4
		192/85.62	2
		192/85.63	52
		192/48.601	3
		192/48.613	1
		418/171	1
192/85 V	10	192/85.04	1
		192/85.06	1
		192/85.08	1
		192/85.15	3
		192/85.53	1
		192/85.57	1
		192/85.58	1
		192/85.63	1
192/85 AA	262	192/106 R	1
		192/85.3	11
		192/85.4	8
		192/85.5	1
		192/48.61	1
		192/85.01	1
		192/85.02	28
		192/85.05	3
		192/85.07	3
		192/85.08	1
		192/85.09	4
		192/85.21	5
		192/85.22	1
		192/85.23	1

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DISPOSITION CLASSIFICATION(S) OF PATENTS  
FROM ABOLISHED SUBCLASSES REPORT

Generated by Data Control Division

<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
		192/85.24	26
		192/85.25	11
		192/85.26	2
		192/85.27	1
		192/85.28	1
		192/85.29	5
		192/85.31	1
		192/85.32	5
		192/85.33	8
		192/85.34	24
		192/85.35	6
		192/85.36	1
		192/85.37	2
		192/85.38	3
		192/85.39	10
		192/85.41	38
		192/85.42	14
		192/85.43	4
		192/85.44	3
		192/85.45	6
		192/85.46	1
		192/85.49	1
		192/85.51	1
		192/85.63	7
		192/48.607	1
		192/48.611	7
		192/48.614	2
		192/48.618	1
		192/48.619	1
192/85 AB	25	192/85.4	1
		192/85.02	1
		192/85.09	5
		192/85.21	3
		192/85.22	6
		192/85.31	1
		192/85.41	3
		192/85.43	2
		192/85.47	2
		192/48.618	1
192/85 AT	40	192/85.02	5
		192/85.12	1
		192/85.18	1
		192/85.21	1

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DISPOSITION CLASSIFICATION(S) OF PATENTS  
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Generated by Data Control Division

<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
		192/85.47	28
		192/85.53	1
		192/85.59	1
		192/85.61	1
		192/48.609	1
192/85 CA	145	192/94	1
		192/85.1	1
		192/85.5	4
		192/85.02	1
		192/85.07	1
		192/85.15	3
		192/85.18	1
		192/85.24	1
		192/85.42	1
		192/85.49	22
		192/85.51	60
		192/85.52	13
		192/85.53	17
		192/85.54	13
		192/85.56	3
		192/85.59	1
		192/85.63	1
		192/48.603	1
192/86	63	192/85.3	1
		192/85.01	1
		192/85.02	1
		192/85.13	1
		192/85.15	1
		192/85.16	1
		192/85.18	4
		192/85.21	3
		192/85.22	7
		192/85.23	1
		192/85.24	1
		192/85.25	2
		192/85.27	1
		192/85.29	1
		192/85.32	1
		192/85.33	4
		192/85.34	1
		192/85.37	1
		192/85.38	2
		192/85.47	1

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DISPOSITION CLASSIFICATION(S) OF PATENTS  
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Generated by Data Control Division

<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
		192/85.48	3
		192/85.51	3
		192/85.52	1
		192/85.53	2
		192/85.56	2
		192/85.57	6
		192/85.59	1
		192/85.63	1
		192/48.607	2
		192/48.611	1
		192/48.612	2
		192/48.613	1
		192/48.614	1
		192/48.615	1
192/88 A	83	192/85.02	1
		192/85.04	1
		192/85.05	27
		192/85.06	2
		192/85.07	3
		192/85.08	3
		192/85.09	28
		192/85.11	2
		192/85.12	1
		192/85.15	11
		192/48.611	4
192/88 B	60	192/85.02	2
		192/85.04	2
		192/85.12	34
		192/85.13	22
192/88 R	2	192/85.09	1
		192/85.13	1
192/91 A	72	192/85.2	2
		192/85.5	2
		192/85.09	2
		192/85.15	3
		192/85.18	2
		192/85.21	8
		192/85.23	4
		192/85.33	2
		192/85.37	4
		192/85.47	2
		192/85.48	1
		192/85.49	3

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DISPOSITION CLASSIFICATION(S) OF PATENTS  
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Generated by Data Control Division

<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
		192/85.51	14
		192/85.52	11
		192/85.53	6
		192/85.54	4
		192/85.56	2
192/91 R	124	192/76	1
		192/85.6	1
		192/85.01	1
		192/85.13	1
		192/85.14	4
		192/85.15	8
		192/85.21	1
		192/85.33	1
		192/85.37	2
		192/85.47	1
		192/85.48	2
		192/85.51	5
		192/85.52	1
		192/85.53	1
		192/85.54	1
		192/85.56	1
		192/85.57	25
		192/85.58	66
		192/85.59	1
192/87.1	8	192/85.51	1
		192/48.601	2
		192/48.607	1
		192/48.609	1
		192/48.611	1
		192/48.614	1
		477/18	1
192/87.11	56	192/48.61	3
		192/85.01	1
		192/85.61	1
		192/48.601	1
		192/48.602	2
		192/48.603	4
		192/48.605	1
		192/48.606	1
		192/48.607	1
		192/48.611	17
		192/48.613	1
		192/48.614	8

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DISPOSITION CLASSIFICATION(S) OF PATENTS  
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<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
		192/48.617	1
		192/48.618	8
		192/48.619	6
192/87.12	8	192/48.601	1
		192/48.611	1
		192/48.614	4
		192/48.618	2
192/87.13	54	192/85.13	1
		192/85.47	2
		192/85.59	1
		192/85.63	6
		192/48.601	17
		192/48.602	1
		192/48.607	3
		192/48.608	1
		192/48.609	5
		192/48.611	6
		192/48.614	8
		192/48.615	1
192/87.14	10	192/48.618	2
		192/85.47	1
		192/85.63	2
		192/48.602	2
		192/48.607	2
		192/48.614	2
		192/48.615	1
192/87.15	34	192/85.09	1
		192/85.21	1
		192/85.53	1
		192/85.63	1
		192/48.606	1
		192/48.609	3
		192/48.611	15
		192/48.612	1
		192/48.613	1
		192/48.614	5
		192/48.615	2
		192/48.618	2
192/87.16	11	192/48.604	4
		192/48.611	1
		192/48.612	6
192/87.17	33	192/85.3	1
		192/48.61	1

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DISPOSITION CLASSIFICATION(S) OF PATENTS  
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Generated by Data Control Division

<u>Source Classification</u>	<u>Number of ORs</u>	<u>New Classification</u>	<u>Number of ORs</u>
		192/48.604	1
		192/48.611	1
		192/48.612	1
		192/48.613	28
192/87.18	9	192/48.601	6
		192/48.607	1
		192/48.609	1
		192/48.613	1
192/87.19	23	192/85.61	3
		192/85.63	1
		192/48.601	11
		192/48.607	3
		192/48.609	1
		192/48.611	2
		192/48.613	1
		192/48.618	1

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C. CHANGES TO THE USPC-TO-IPC CONCORDANCE

<u>Class</u>	<u>USPC</u> <u>Subclass</u>	<u>IPC</u> <u>Subclass</u>	<u>Notation</u>
192	48.601	F16D	25/10, 25/00, 21/00
192	48.602-48.608	F16D	25/10, 25/08, 21/00
192	48.609-48.619	F16D	25/10, 25/06, 21/00
192	85.01	F16D	25/00, 43/28
192	85.02	F16D	25/02, 43/28
192	85.03-85.16	F16D	25/04, 43/28
192	85.17	F16D	25/06, 43/28
192	85.18	F16D	25/061, 43/28
192	85.19	F16D	25/062, 43/28
192	85.2	F16D	25/063, 43/28
192	85.21	F16D	25/0632, 43/28
192	85.22	F16D	25/0632, 25/064, 43/28
192	85.23	F16D	25/0635, 43/28
192	85.24-85.46	F16D	25/0638, 43/28
192	85.47	F16D	25/065, 43/28
192	85.48-85.6	F16D	25/08, 43/28
192	85.61	F16D	25/12, 13/72, 13/74
192	85.62-85.63	F16D	25/12

D. CHANGES TO THE DEFINITIONS (Project No. M-B192)

CLASS 73 -- MEASURING AND TESTING

Definitions Modified

Subclass 488: Under SEE OR SEARCH CLASS, in the reference to Class 192,

Delete:

subclass .02 for automatic control of a motor and clutch by speed, and

Under SEE OR SEARCH CLASS

Insert:

477, Interrelated Power Delivery Controls, Including Engine Control, subclasses 14, 64+, 80+, 84+, 148, 154, 159+, 169, 175+, 186, 187, and 195+ for speed responsive control of an engine and associated device.

CLASS 74 -- MACHINE ELEMENT OR MECHANISM

Definitions Modified

Subclass 364: Under SEE OR SEARCH CLASS

Delete:

the reference to Class 192

Insert:

192, Clutches and Power-Stop Control, subclasses 48.601+ and 85.01+ for fluid pressure operated clutches.

CLASS 137 -- FLUID HANDLING

Definitions Modified

Subclass 625:

Delete :

SEE OR SEARCH CLASS and the reference to Class 192

CLASS 188 -- BRAKES

Definitions Modified

Subclass 72.4: Under SEE OR SEARCH CLASS

Delete:

85+

Insert:

48.601+ and 85.01+

Subclass 170: Under SEE OR SEARCH CLASS

Delete:

the reference to Class 192

Insert:

192, Clutches and Power-Stop Control, subclasses 85.37 and 85.57+ for a fluid pressure released clutch that may be spring applied.

## CLASS 192 -- CLUTCHES AND POWER-STOP CONTROL

Definitions Abolished:Subclasses

85, 86, 87.1, 87.11-87.19, 88, 91

## Definitions Modified

Subclass 3.29: Under SEE OR SEARCH THIS CLASS, SUBCLASS

Delete :

the reference to subclasses 85+

Insert:

48.601+ and 85.01+, for a fluid pressure operated clutch.

Subclass 3.31: Under SEE OR SEARCH THIS CLASS, SUBCLASS

Delete:

the reference to subclass 87.12

Subclass 30:

Delete:

The body of the definition

Insert:

This subclass is indented under the class definition. A power-transmitting device utilizing friction or interlocking parts for securing and releasing driving continuity as between two shafts or a pulley and a shaft or other driving and driven parts.

Subclass 48.1: In the title

Delete:

**assemblage**Insert:**assemblages**

In the body of the definition

Delete:

31

Insert:

30

Under SEE OR SEARCH THIS CLASS, SUBCLASS

Delete:

the reference to subclasses 87.1+

Subclass 48.9: Under SEE OR SEARCH THIS CLASS, SUBCLASS

Delete:

the reference to subclasses 87.14+

Insert:

48.604+ and 48.612+, for multiple fluid clutches having a common actuator that may allow only alternate engagement of the clutches.

Subclass 54.3: Under SEE OR SEARCH THIS CLASS, SUBCLASS

Delete :

85+

Insert:

48.601+ and 85.01+

Subclass 56.3:

Under SEE OR SEARCH THIS CLASS, SUBCLASS

Delete:

85+

Insert:

48.601+ and 85.01+

Subclass 70.11:

Insert:

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.09+ and 85.24+, for a clutch having more than two mating friction elements.

Subclass 70.251: Under SEE OR SEARCH THIS CLASS, SUBCLASS

Insert:

85.62, for a fluid-operated clutch including a wear compensator that operates by fluid actuator adjustment or control rather than by adjustment of relative positions of friction elements.

Subclass 82:

Delete:

The body of the definition

Insert:

This subclass is indented under subclass 30. Subject matter including an actuating device that causes the power-transmitting device to transition into or out of a state in which it provides the driving continuity between the driving and driven parts.

Subclass 106:

Insert:

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.25, for a fluid-operated clutch having a balance chamber for counteracting the effects of rotation-induced pressure in the operating fluid.

Subclass 113.1:

Insert:

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.61, for cooling or lubricating means for a fluid-operated clutch.

Definitions Established

**48.601 Having fluid pressure operator:**

This subclass is indented under subclass 48.1. Subject matter in which the clutch-assemblages include a clutch-assemblage that is actuated (i.e., caused to engage or disengage) by the action of fluid under pressure.

- (1) Note. The phrase "action of fluid under pressure" is intended to include the effects of fluid whose pressure is less than ambient or atmospheric pressure and typically referred to as "vacuum" or "partial vacuum".

SEE OR SEARCH THIS CLASS, SUBCLASS:

3.25+, for a combination of vortex-flow drive and a plurality of clutches, wherein the clutches may be fluid-pressure operated.

3.29+, and 3.33, for a fluid-pressure operator for a clutch that is combined with a vortex-flow drive.

48.1+, for a combination of multiple clutches that are mechanically operated.

85.01+, for a clutch having a fluid-pressure operator.

SEE OR SEARCH CLASS:

92, Expansible Chamber Devices, appropriate subclasses for an expansible chamber device, per se, even though disclosed as a means to operate a clutch.

303, Fluid-Pressure and Analogous Brake Systems, appropriate subclasses for systems of distribution of fluid to motors of more general application.

**48.602 Operator rotatable relative to its clutch-assemblage:**

This subclass is indented under subclass 48.601. Subject matter in which the fluid under pressure acts through a fluid motor that is rotatable relative to both the driving and driven parts connected by the fluid-operated clutch-assemblage.

**48.603 Operator coaxial with its clutch-assembly:**

This subclass is indented under subclass 48.602. Subject matter in which an axis along which the fluid motor acts is aligned with an axis of rotation of the fluid-operated clutch-assembly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.611+, 48.617, and 48.618+, for a clutch and coaxial actuator that may rotate with the clutch.

**48.604 Common or interconnected operator(s):**

This subclass is indented under subclass 48.603. Subject matter in which the fluid motor contributes to operation (engagement or disengagement) of two or more of the clutch-assemblies or in which the fluid motor and an additional fluid motor operate two or more of the clutch-assemblies and the position of an output element (e.g., piston, actuating shaft) of one of the fluid motors is dependent upon the position of an output element the other fluid motor.

SEE OR SEARCH THIS CLASS, SUBCLASS(ES):

3.27, for the combination of a vortex-flow drive and alternatively operative clutches that may include a common actuator or interconnected actuators.

48.612+, for common or interconnected actuator(s) that may rotate with associated clutches.

**48.605 Operator between clutch-assemblies:**

This subclass is indented under subclass 48.604. Subject matter in which the fluid motor is located between two of the clutch-assemblies.

SEE OR SEARCH THIS CLASS, SUBCLASS(ES):

48.613 and 48.614, for clutches and an actuator that may rotate relative to at least one of the clutches and that is located between the clutches.

**48.606 Axially spaced coaxial clutch-assemblies:**

This subclass is indented under subclass 48.603. Subject matter in which two of the clutch-assemblies rotate about a common axis and have disengageable power-transmitting portions (e.g., friction surfaces), all disengageable power-transmitting portions of one of the two clutch-assemblies being axially spaced at all times from all disengageable power-transmitting portions of the other clutch-assembly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.607 and 48.609+, for other axially spaced coaxial clutches.

**48.607 Axially spaced coaxial clutch-assemblies:**

This subclass is indented under subclass 48.602. Subject matter in which two of the clutch-assemblies rotate about a common axis and have disengageable power-transmitting portions (e.g., friction surfaces), all disengageable power-transmitting portions of one of the two clutch-assemblies being axially spaced at all times from all disengageable power-transmitting portions of the other clutch-assembly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.606 and 48.609+, for other axially spaced coaxial clutches.

**48.608 Plural fluid pressure operators forming nested pistons:**

This subclass is indented under subclass 48.602. Subject matter in which the fluid pressure also acts through an additional fluid motor, each fluid motor having a piston movable by application of the fluid pressure thereto, the piston of one of the fluid motors forming a cylinder of the other fluid motor in which cylinder the piston of the other fluid motor is movable.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.61 and 48.616+, for other clutches having actuators forming nested pistons.

**48.609 Axially spaced coaxial clutch-assemblages:**

This subclass is indented under subclass 48.601. Subject matter in which two of the clutch-assemblages rotate about a common axis and have disengageable power-transmitting portions (e.g., friction surfaces), all disengageable power-transmitting portions of one of the two clutch-assemblages being axially spaced at all times from all disengageable power-transmitting portions of the other of the two clutch-assemblages.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.606 and 48.607, for other axially spaced coaxial clutches.

**48.61 Plural fluid pressure operators forming nested pistons:**

This subclass is indented under subclass 48.609. Subject matter including two fluid motors that actuate one or more of the clutch assemblages, each fluid motor having a piston movable by application of the fluid pressure thereto, the piston of one of the fluid motors forming a cylinder of the other fluid motor in which cylinder the piston of the other fluid motor is movable.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.608 and 48.616+, for other clutches having actuators forming nested pistons.

**48.611 Operator coaxial with its clutch-assembly:**

This subclass is indented under subclass 48.609. Subject matter in which the fluid under pressure acts through a fluid motor and an axis along which the fluid motor acts is aligned with an axis of rotation of the fluid actuated clutch-assembly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.603+, 48.617, and 48.618+, for a clutch and coaxial actuator.

**48.612 Common or interconnected operator(s):**

This subclass is indented under subclass 48.611. Subject matter in which the fluid motor contributes to operation (engagement or disengagement) of two of the clutch-assemblages or in which the fluid motor and an additional fluid motor operate two of the clutch-assemblages and the position of an output element (e.g., piston, actuating shaft) of one of the fluid motors is dependent upon the position of an output element the other fluid motor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.604+, for common or interconnected actuator(s) that rotate relative to associated clutch(es).

3.27, for the combination of a vortex-flow drive and alternatively operative clutches that may include a common or interconnected actuator(s).

**48.613 Operator between clutch-assemblages:**

This subclass is indented under subclass 48.612. Subject matter in which the fluid motor is located between the two clutch-assemblages.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.605 and 48.614, for plural clutches and an actuator located between the clutches.

**48.614 Operator between clutch-assemblages:**

This subclass is indented under subclass 48.611. Subject matter in which the fluid motor is located between two of the clutch-assemblages.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.605 and 48.613, for other actuators located between clutches.

**48.615 Radially acting operator:**

This subclass is indented under subclass 48.609. Subject matter in which the fluid under pressure acts through a fluid motor and an axis along which the fluid motor acts is substantially perpendicular to the axis of rotation of the fluid actuated clutch-assembly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.12+, 85.16, and 85.47, for a clutch operated by a radially acting fluid pressure actuator.

**48.616 Plural fluid pressure operators forming nested pistons:**

This subclass is indented under subclass 48.601. Subject matter in which the fluid under pressure acts through two fluid motors that actuate one or more of the clutch assemblies, each fluid motor having a piston movable by application of the fluid pressure thereto, the piston of one of the fluid motors forming a cylinder of the other fluid motor in which cylinder the piston of the other fluid motor is movable.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.608 and 48.61, for clutch actuators forming nested pistons.

**48.617 At least one operator coaxial with its clutch-assembly:**

This subclass is indented under subclass 48.616. Subject matter in which at least one of the fluid motors acts along an axis that is aligned with an axis of rotation of (one of) the clutch-assembly(s) it actuates.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.603+, 48.611+, and 48.618+, for a clutch and coaxial actuator.

**48.618 Operator coaxial with its clutch-assembly:**

This subclass is indented under subclass 48.601. Subject matter in which the fluid under pressure acts through a fluid motor to actuate the clutch-assembly and an axis along which the fluid motor acts is aligned with an axis of rotation of the clutch-assembly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.603+, 48.611+, and 48.617, for a clutch and coaxial actuator.

**48.619 Radially spaced coaxial clutch-assemblies:**

This subclass is indented under subclass 48.618. Subject matter in which the clutch-assemblies include two clutch-assemblies having the same axis of rotation and having disengageable power-transmitting portions (e.g., friction surfaces), the clutch-assemblies being arranged such that a plane perpendicular to the axis of rotation passes through or between at least one disengageable power-transmitting portion of each of the two clutch-assemblies.

**85.01 Fluid pressure:**

This subclass is indented under subclass 82. Subject matter in which the actuating device is powered by the action of a fluid under pressure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

3.29+, and 3.33, for a fluid-pressure operator to engage or actuate a clutch that is combined with a vortex-flow drive.

48.601, for plural clutches at least one of which is fluid-pressure operated.

56.3, for an overload release mechanism in a fluid-pressure operated clutch.

SEE OR SEARCH CLASS:

92, Expansible Chamber Devices, appropriate subclasses for an expansible chamber device, per se, even though disclosed as a means to operate a clutch.

303, Fluid-Pressure and Analogous Brake Systems, appropriate subclasses for systems of distribution of fluid to motors of more general application.

**85.02 Operator force derived from clutch input or output:**

This subclass is indented under subclass 85.01. Subject matter in which power is transmitted from one of the driving and driven parts via the fluid to the actuating device.

**85.03 Elastic (e.g., diaphragm, pneumatic tube):**

This subclass is indented under subclass 85.01. Subject matter in which the actuating device includes a flexible element that flexes in response to changes in fluid pressure.

- (1) Note. Devices in which the actuating device includes sliding seals, in addition to a flexible element, along which sliding occurs during expansion or contraction are included in this subclass.

SEE OR SEARCH CLASS:

92, Expansible Chamber Devices, subclasses 34+ for a bellows type expansible chamber device, and subclasses 90+ for a flexible wall type expansible chamber device.

**85.04 Rotating with clutch input or output:**

This subclass is indented under subclass 85.03. Subject matter in which the flexible element rotates integrally with one of the driving and driven parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.17+, for an elastic clutch-actuating member that rotates relative to the clutch input and output.

**85.05 And causing purely axial movement:**

This subclass is indented under subclass 85.04. Subject matter in which flexing of the flexible element causes a component of the power-transmitting device to move in a first direction along a path that is parallel to the axis of rotation of the driving or driven part.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.2+, 85.15, and 85.49+, for other actuator configurations for producing axial displacement of a clutch element.

**85.06 Including flexible friction discs:**

This subclass is indented under subclass 85.05. Subject matter in which the flexible element includes a pair of flexible discs on which friction surfaces for providing the driving continuity are located, the fluid acting directly on the discs to cause elastic deformation thereof and, thereby, affect the extent of engagement of the friction surfaces with each other.

**85.07 Plural oppositely acting elastic operators:**

This subclass is indented under subclass 85.05. Subject matter in which the power-transmitting device includes an additional flexible element on which the fluid acts to cause it to flex and move in a second direction substantially opposite the first direction when the fluid acts on the flexible elements.

**85.08 Clutch has flat friction surfaces:**

This subclass is indented under subclass 85.05. Subject matter in which the component of the power-transmitting device is a first member having a first planar surface and the power-transmitting device includes a second member having a second planar surface parallel to the first planar surface, movement of the component in the first direction resulting in engagement of the first and second planar surfaces to transmit power therebetween by friction, the first and second members being drivingly connected, respectively, to the driving and driven parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.23+, for a clutch having flat friction surfaces that is operated by a fluid-pressure actuator other than an elastic actuator.

**85.09 More than two friction elements:**

This subclass is indented under subclass 85.08. Subject matter including a third member drivingly connected to one of the driving and driven parts and having a third planar surface parallel to the first planar surface, the second member having a fourth planar surface parallel to the first planar surface, the third member being movable axially relative to the second member such that the third and fourth planar surfaces engage to transmit power therebetween by friction.

SEE OR SEARCH THIS CLASS, SUBCLASS:

70.11+ and 85.24+, for a clutch having three or more friction elements.

**85.1 Plate or diaphragm spring release:**

This subclass is indented under subclass 85.09. Subject matter in which the first, second, third, and fourth planar surfaces are separated by the force of a substantially planar spring with or without radial slits that form a plurality of fingers.

**85.11 Clutch has positively engaging clutch members:**

This subclass is indented under subclass 85.05. Subject matter in which the power-transmitting device includes separable interlocking power-transmitting elements.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.18, for a clutch having positively engaging clutch members operated by a fluid actuator other than an elastic actuator.

**85.12 And causing purely radial movement:**

This subclass is indented under subclass 85.04. Subject matter in which flexing of the flexible element causes a first component of the power-transmitting device to move substantially along a line perpendicular to the axis of rotation of the driving or driven part when the fluid acts on the flexible element.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.615, 85.16, and 85.47, for a clutch operated by a radially acting fluid pressure actuator.

**85.13 Elastic operator integral with radially outer clutch member:**

This subclass is indented under subclass 85.12. Subject matter in which the first component engages a second component of the power-transmitting device in order to establish the driving continuity between the driving and driven parts, the first and second components being radially spaced and the flexible element having a portion that is fixed to the radially outer one of the first and second components.

**85.14 Rotatable relative to clutch input and output:**

This subclass is indented under subclass 85.03. Subject matter in which the flexible element is rotatable relative to both the driving and driven parts.

**85.15 And causing purely axial movement:**

This subclass is indented under subclass 85.14. Subject matter in which flexing of the flexible element causes a component of the power-transmitting device to move along a path that is parallel to the axis of rotation of the driving part or driven part.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.05+, 85.2+, and 85.49+, for other actuator configurations for producing axial displacement of a clutch element.

**85.16 And causing purely radial movement:**

This subclass is indented under subclass 85.14. Subject matter in which flexing of the flexible element causes a component of the power-transmitting device to move substantially along a line perpendicular to the axis of rotation of the driving or driven part.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.615, 85.12+, and 85.47, for a clutch operated by a radially acting fluid pressure actuator.

**85.17 Piston and cylinder operator rotating with clutch input or output:**

This subclass is indented under subclass 85.01. Subject matter in which the actuating device includes an enclosure (cylinder) in which a partition (piston) is slidably received in sealing engagement with the enclosure, fluid being admitted into the enclosure to apply a force to the enclosure and the partition, the enclosure or the partition being connected to and rotating integrally with the driving or driven part, relative displacement of the enclosure and partition due to the force applied by the fluid contributing to the transition of the power-transmitting device into or out of the state in which it provides the driving continuity between the driving and driven parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.04+, for an elastic clutch actuating member that rotates integrally with the clutch input or output.

**85.18 Positive clutch:**

This subclass is indented under subclass 85.17. Subject matter in which the power-transmitting device includes separable interlocking power-transmitting elements.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.11, for a clutch having positively engaging clutch members operated by an elastic fluid actuator.

**85.19 Friction clutch:**

This subclass is indented under subclass 85.17. Subject matter in which the power-transmitting device includes power-transmitting elements having mutually engageable surfaces that transmit power from one to another substantially solely by friction forces when pressed together.

**85.2 Having friction elements movable axially only:**

This subclass is indented under subclass 85.19. Subject matter in which the power-transmitting elements are engageable and disengageable by relative movement along a path that is parallel to an axis of rotation of at least one of the power-transmitting elements.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.05+, 85.15, and 85.49+, for other actuator configurations for producing axial displacement of a clutch element.

**85.21 Having conical or frustoconical friction surfaces (e.g., cone clutch):**

This subclass is indented under subclass 85.2. Subject matter in which the mutually engageable surfaces of the power-transmitting elements have the shape of a cone or frustum of a cone.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66.2, for axially engaging clutches having conical or frustoconical friction surfaces.

**85.22 Plural radially spaced frustoconical surfaces:**

This subclass is indented under subclass 85.21. Subject matter in which the mutually engageable surfaces of the power-transmitting elements include a plurality of radially spaced concentric frustoconical surfaces on each power-transmitting element.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66.21, for axially engaging clutches having plural radially spaced frustoconical friction surfaces.

**85.23 Having flat friction surfaces:**

This subclass is indented under subclass 85.2. Subject matter in which the mutually engageable surfaces of the power-transmitting elements are substantially planar.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.08+, for a clutch having flat friction surfaces that is operated by an elastic fluid-pressure actuator.

**85.24 More than two friction elements:**

This subclass is indented under subclass 85.23. Subject matter in which the power-transmitting device has at least three of the power-transmitting elements.

SEE OR SEARCH THIS CLASS, SUBCLASS:

70.11+ and 85.09+, for a clutch having three or more friction elements.

**85.25 Including balance chamber:**

This subclass is indented under subclass 85.24. Subject matter including a fluid receiving space outside the enclosure that rotates with the actuating device and is arranged such that rotation induced fluid pressure in the space acts on the partition or the enclosure to counteract an effect of a similar rotation induced pressure in the fluid in the enclosure.

- (1) Note. The purpose of the balance chamber is, typically, to prevent a rotating clutch from being locked in an engaged (power-transmitting) state due to centrifugal forces acting on the fluid used to initially engage the clutch.

SEE OR SEARCH THIS CLASS, SUBCLASS:

106, for a speed responsive clutch that may be fluid operated and include means to prevent locking of the clutch due to centrifugal forces acting on the operating fluid.

**85.26 Cam mechanism between piston and friction element:**

This subclass is indented under subclass 85.24. Subject matter in which motion is transmitted from the enclosure or partition to at least one of the power-transmitting elements by a mechanism including slidably engaged relatively moving surfaces that include portions inclined to the direction of relative motion at a point of contact between the surfaces.

**85.27 Auxiliary exhaust or relief passage from piston chamber:**

This subclass is indented under subclass 85.24. Subject matter in which there are one or more primary inlets and outlets for the fluid in the enclosure or partition which inlets and outlets supply and return substantially the bulk of the fluid to the enclosure and the enclosure or partition includes an additional passage that permits flow of fluid out of the enclosure to provide an additional level of control over the action of the fluid on the device.

- (1) Note. A plurality of return passages extending from and leading along similar paths to a fluid receiver or common exhaust channel is not sufficient to warrant placement here. This subclass requires a passage associated with a substantially different fluid exhaust path.

**85.28 Fluid escape from piston chamber by rotation-induced pressure:**

This subclass is indented under subclass 85.27. Subject matter in which substantially all of the flow of fluid from the enclosure through the additional passage is the result of pressurization of the fluid relative to pressure outside of the enclosure due to rotation of the enclosure.

**85.29 In piston:**

This subclass is indented under subclass 85.27. Subject matter in which the additional passage is formed in the partition.

**85.3 Valve in passage:**

This subclass is indented under subclass 85.29. Subject matter including structure that moves between a state in which it interrupts or blocks flow through the additional passage and a state in which it permits the flow during operation of the power-transmitting device.

**85.31 Valve in passage:**

This subclass is indented under subclass 85.27. Subject matter including structure that moves between a state in which it interrupts or blocks flow through the additional passage and a state in which it permits the flow during operation of the power-transmitting device.

**85.32 Variable fluid contacting piston area:**

This subclass is indented under subclass 85.24. Subject matter in which the fluid is brought into contact with different portions of the partition at different times during a single stroke of the partition.

- (1) Note. Typically, the total area of contact between the fluid and the partition (piston) is increased in stages resulting in a more gradual increase in the force acting on the power-transmitting elements than would occur if the fluid were introduced into contact with the entire area at once.

**85.33 Axially stationary piston, moving cylinder:**

This subclass is indented under subclass 85.24. Subject matter in which the partition is fixed relative to the driving or driven part during operation of the power-transmitting device.

**85.34 Cushioning element between piston and friction element:**

This subclass is indented under subclass 85.24. Subject matter including a resilient element that deforms significantly in operation located in a force transmission path between the partition and one of the power-transmitting elements.

- (1) Note. Typically, the resilient element provides for a more gradual increase in the force acting on the power-transmitting elements than would occur without the resilient element.

**85.35 Operator acts on friction elements via diaphragm spring or lever:**

This subclass is indented under subclass 85.24. Subject matter in which at least part of the force applied to the partition by the fluid is transmitted to the power-transmitting elements through a radially extending finger of an annular spring or a lever pivotally mounted in the power-transmitting device.

**85.36 Electric or magnetic release:**

This subclass is indented under subclass 85.24. Subject matter including a device utilizing electrical or magnetic forces that is at least partially responsible for causing the power-transmitting device to transition out of the state in which it provides the driving continuity between the driving and driven parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

84.1+, for an electric or magnetic operator that applies a clutch.

**85.37 Fluid released clutch:**

This subclass is indented under subclass 85.24. Subject matter in which the fluid under pressure is used to cause the power-transmitting device to transition out of the state in which it provides the driving continuity between the driving and driven parts.

**85.38 And fluid pressure engaged:**

This subclass is indented under subclass 85.37. Subject matter in which the force applied by the fluid to the enclosure and the partition contributes to the transition of the power-transmitting device into the state that provides the driving continuity between the driving and driven parts.

**85.39 Spring released clutch:**

This subclass is indented under subclass 85.24. Subject matter including an elastic element that deforms significantly in operation that is at least in part responsible for the transition of the power-transmitting device out of the state in which it provides the driving continuity between the driving and driven parts.

**85.4 Release spring between discs:**

This subclass is indented under subclass 85.39. Subject matter in which the elastic element is located between and presses in separating directions against two of the power-transmitting elements.

**85.41 Coil spring:**

This subclass is indented under subclass 85.39. Subject matter in which the elastic element has a helical shape and is deflected along its axis during use.

**85.42 Encircling clutch axis of rotation:**

This subclass is indented under subclass 85.41. Subject matter in which the axis of rotation of the power-transmitting elements passes through the interior of the elastic element.

**85.43 Having particular friction element structure:**

This subclass is indented under subclass 85.24. Subject matter including details of the power-transmitting elements.

**85.44 Having particular piston seal:**

This subclass is indented under subclass 85.24. Subject matter including details of means for preventing leakage of fluid between the partition and enclosure.

**85.45 Piston has interrupted engagement face:**

This subclass is indented under subclass 85.24. Subject matter in which the surface of the partition opposite its surface facing the interior of the enclosure has first and second portions and has a third portion located between the first and second portions, the first and second portions contacting one of the power-transmitting elements to apply an actuating force to the power-transmitting element while the third portion is spaced from the power-transmitting element.

**85.46 Piston has nonplanar engagement face:**

This subclass is indented under subclass 85.24. Subject matter in which there is at least one area of contact between the partition and one of the power-transmitting elements that is non-planar.

**85.47 Having radially displaceable friction surface:**

This subclass is indented under subclass 85.19. Subject matter in which some of the mutually engageable surfaces of the power-transmitting elements change their distance from the axis of rotation of at least one of the power transmitting elements as the mutually engageable surfaces are pressed together.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48.615, 85.12+, and 85.16, for a clutch operated by a radially acting fluid pressure actuator.

**85.48 Operator rotatable relative to clutch input and output:**

This subclass is indented under subclass 85.01. Subject matter in which the actuating device includes a fluid motor through which the fluid affects the state of the power-transmitting device, the fluid motor being rotatable relative to both the driving and driven parts.

**85.49 And aligned with clutch axis of rotation:**

This subclass is indented under subclass 85.48. Subject matter in which the fluid motor includes an actuating element that moves, under the pressure of the fluid, along a line coaxial with the axis of rotation of the driving part or driven part.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85.05+, 85.2+, and 85.15, for other actuator configurations for producing axial displacement of a clutch element.

- 85.5 Operator acts on clutch through push rod extending coaxially through input or output shaft:**  
This subclass is indented under subclass 85.49. Subject matter in which the fluid motor affects the state of the power-transmitting device by moving an elongated element that is coaxial with and extends through a hollow shaft integral with one of the driving and driven parts.
- 85.51 Operator acts on clutch via diaphragm spring or lever:**  
This subclass is indented under subclass 85.49. Subject matter in which the fluid motor affects the state of the power-transmitting device through a radially slit spring having plural fingers or through a set of levers that extend radially of the axis of rotation of the driving part or driven part.
- 85.52 Pull-to-release type clutch:**  
This subclass is indented under subclass 85.51. Subject matter in which portions of the fingers or levers move with the actuating element of the fluid motor and in which fluid induced motion of the actuating element of the fluid motor in a direction generally away from power-transmitting elements of the power-transmitting device and toward the fluid motor places the power-transmitting device in a state in which it does not transmit power between the driving and driven parts.
- 85.53 Details of fluid operator:**  
This subclass is indented under subclass 85.49. Subject matter including details of the fluid motor.
- 85.54 Having particular seal:**  
This subclass is indented under subclass 85.53. Subject matter including details of means for preventing leakage of fluid within or from the fluid motor.
- 85.55 Details of master cylinder:**  
This subclass is indented under subclass 85.49. Subject matter including details of a piston and cylinder mechanism that pressurizes the fluid to cause it to act on the fluid motor.
- 85.56 Operator spaced from and parallel to clutch axis of rotation:**  
This subclass is indented under subclass 85.48. Subject matter in which the fluid motor includes an actuating element that moves, under the pressure of the fluid, along a line that is parallel to the axis of rotation of the driving part or driven part.
- 85.57 Fluid released clutch:**  
This subclass is indented under subclass 85.48. Subject matter in which the power-transmitting device is transitioned out of the state in which power is transmitted between the driving and driven members (i.e., disengaged) under power of the fluid motor.
- 85.58 By vacuum:**  
This subclass is indented under subclass 85.57. Subject matter in which the pressure of fluid that powers the fluid motor is less than the pressure of fluid surrounding the fluid motor.

**85.59 Details of fluid operator:**

This subclass is indented under subclass 85.48. Subject matter including details of the fluid motor.

**85.6 Details of master cylinder:**

This subclass is indented under subclass 85.48. Subject matter including details of a piston and cylinder mechanism that pressurizes the fluid to cause it to act on the fluid motor.

**85.61 Cooling or lubricating:**

This subclass is indented under subclass 85.01. Subject matter in which the power-transmitting device includes features for facilitating removal of heat from the power-transmitting device or for directing a lubricant into, out of, or through the power-transmitting device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

113.1+, for clutch cooling and lubricating means, per se.

**85.62 Having wear compensator:**

This subclass is indented under subclass 85.01. Subject matter in which the power-transmitting device includes means to mitigate the effect on the operation of the power-transmitting device of dimensional changes in components thereof that occur with repeated use.

SEE OR SEARCH THIS CLASS, SUBCLASS:

70.251+, for a clutch having means for adjusting the position of a friction element relative to friction element moving means for compensating for wear of the friction element.

111.1+, for wear compensators, per se.

**85.63 Including fluid pressure control:**

This subclass is indented under subclass 85.01. Subject matter including means to regulate, set, or modulate the pressure of the fluid that powers the actuating device.

## CLASS 415 -- ROTARY KINETIC FLUID MOTORS OR PUMPS

## Definitions Modified

Class definition: In SECTION III - REFERENCES TO OTHER CLASSES

Delete:

the reference to Class 192

Insert:

477, Interrelated Power Delivery Controls, Including Engine Control, subclasses 57, 62+, and 168+ for the combination of a fluid rotary motor and a clutch mechanism, in which there are interrelated controls for the motor and the clutch, and subclass 205, for the combination of a fluid rotary motor and a brake or lock applied to the motor or its output shaft and having a mechanism for the joint control of the motor and the brake or lock.

CLASS 418 -- ROTARY EXPANSIBLE CHAMBER DEVICES

Definitions Modified

Subclass 17: Under SEE OR SEARCH CLASS

Delete:

the reference to Class 192

Insert:

477, Interrelated Power Delivery Controls, Including Engine Control, subclasses 84+ and 91, for interrelated power delivery controls automatically controlled by speed.

CLASS 464 -- ROTARY SHAFTS, GUDGEONS, HOUSINGS, AND FLEXIBLECOUPLINGS  
FOR ROTARY SHAFTS

Definitions Modified

Class definition: In SECTION IV - REFERENCES TO OTHER CLASSES, in the reference to  
Class 192

Delete:

85+

Insert:

48.601+ and 85.01+

Subclass 24: Under SEE OR SEARCH CLASS

Delete :

85+

Insert:

48.601+ and 85.01+