

TECHNICAL REFERENCE · PRINT & KEEP

Caster Mounting Styles: Plate, Stem & Socket Compared

One-page quick reference · Full engineering guide + live tools at the QR codes below

Quick answer. Caster mounting style is dictated by the equipment frame, not preference. Plate mounts carry the heaviest loads, from 250 lb light duty to 20,000 lb super heavy, and allow field replacement. Threaded stems suit tapped sockets on light carts, grip-ring stems fit medical and seating tubes, and expanding adapters retrofit open tube frames.

Expanding Adapter Stem

Tube Shape	Tube ID	Adapter Stem	Max Load per Caster	Best Use
Round	0.875 in	1/2-13 stem	150 lb	Display, light retail
Round	1.000 in	1/2-13 or 5/8-11 stem	250 lb	Retail, light cart
Round	1.250 in	5/8-11 stem	400 lb	Medium cart
Square	1.000 in	1/2-13 stem	250 lb	Display, light cart
Square	1.250 in	5/8-11 stem	500 lb	Medium cart
Square	1.500 in	3/4-10 stem	800 lb	Heavy retail retrofit

Mount Selection Matrix

Cart Frame	Load per Caster	Recommended Mount	Alternative	Service Notes
Flat plate or welded frame	500 to 20,000 lb	Plate mount	Welded stud mount	Bolt replacement in 5 minutes; re-torque at 30 days
Tapped bore in steel frame	125 to 2,500 lb	Threaded stem	Plate mount with adapter	Loctite + jam nut; re-torque at 30 days
Press-fit bore (chair, hospital)	75 to 500 lb	Grip-ring stem	Threaded stem if bore is tapped	Tool-free; replace by pulling out and pressing new in
Round tube frame (legacy retrofit)	150 to 800 lb	Expanding adapter stem	Weld-in plate adapter	Clean tube ID before install; re-tighten at 30 days
Heavy industrial tube	500 to 3,000 lb	Weld-in plate adapter	Custom bolt-on adapter	Welding required; treat as permanent install
Non-standard or obsolete	varies	Custom mount plate	Weld-in adapter	Engineering drawing + sample required



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