Memo: MAESTRO weight, CG, and footprint for storage.
To: MMTO
From: David Dean, Jill Bechtold
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Here are the weights and CGs for MAESTRO as calculated with our best IDEAS model. Also, we attach drawings of the MAESTRO dimensions and footprint in the storage area, as built.

The total weights are summarized in Table 1. These are estimates, good to probably +/ 10%.

Table 1	
Instrument + counterweights only, no cart	2730 pounds
Instrument + instrument cart, no counterweights	3466 pounds
Instrument + instrument cart + counterweights	4238 pounds
Counterweights only	772 pounds
Instrument cart only	1500 pounds
Alignment frame, not extended (see fig. 7)	567 pounds

CG's are indicated on the attached figures. The x,y,z coordinates of the CG in inches is given where the axes are indicated and (0,0,0) is defined to be the telescope axis at the bottom plane of the rotator.

Fig. 1 shows the instrument + counterweights as mounted on the telescope. Wheels on the counterweight structure are not shown.
Fig. 2 shows the instrument + the instrument cart, with no counterweights. The turn point and rigging point are shown.
Fig. 3. shows the instrument, counterweights and instrument cart.
Fig. 4. shows the counterweight attached to the instrument rotator.
Fig. 5. shows the counterweight and spectrograph cart. The spectrograph cart may be used to mount the counterweights on the telescope, although the counterweights have their own wheels (not shown).
Fig. 6. shows the CG of the cart without the spectrograph.
Fig. 7 shows the CG of the alignment frame, which we plan to extend in the Y direction by two feet, since it is currently not wide enough to wheel in and out the spectrograph without being dismantled (the electronics boxes are a little too wide).

Fig. 8-11 shows the footprint of the spectrograph, cart and frame. We need to find out what the available space in the pit is for storage. We would like to extend the alignment frame by 2 feet in one direction, as noted above.

Figure 1. shows the instrument + counterweights as mounted on the telescope.
Wheels on the counterweight structure are not shown.

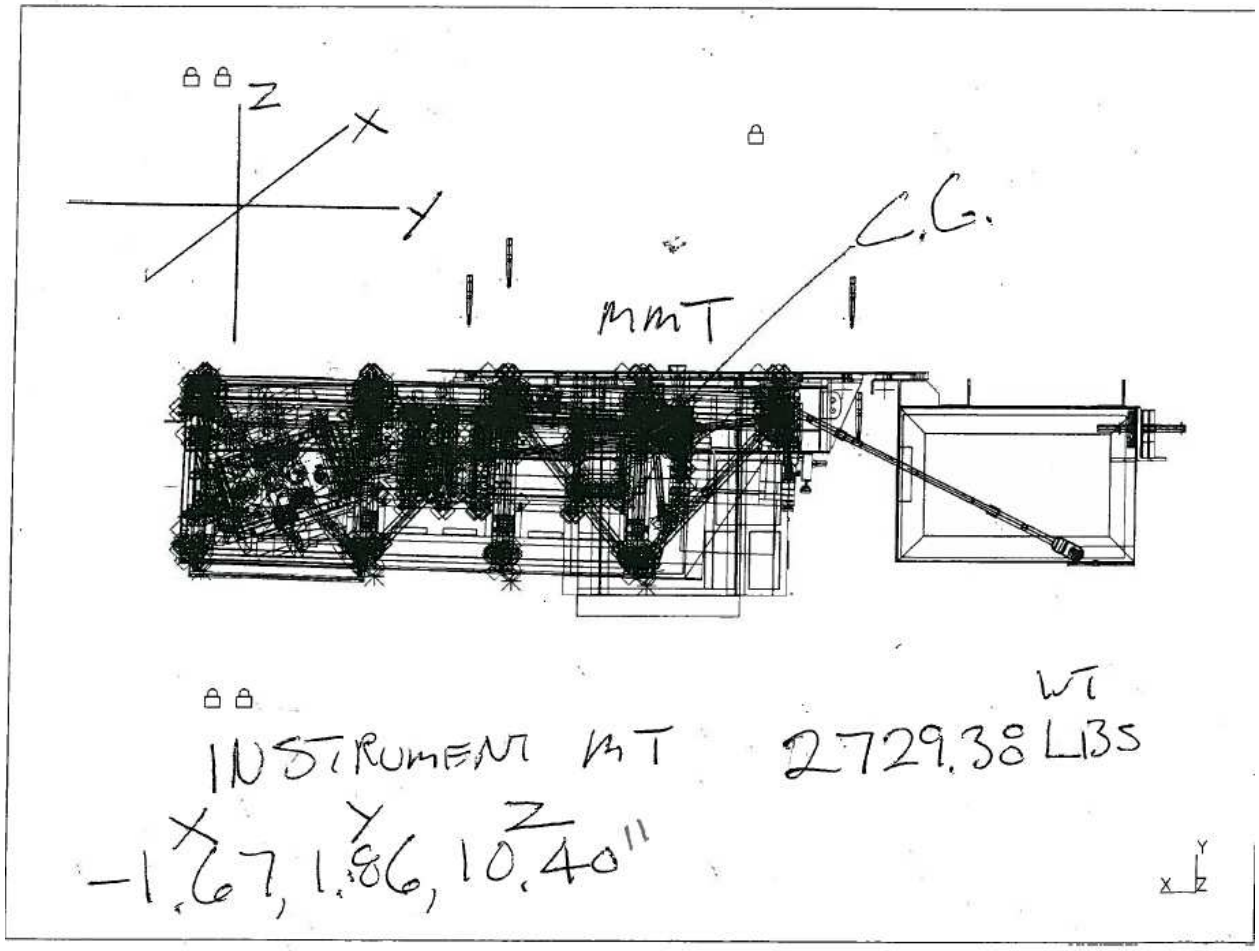
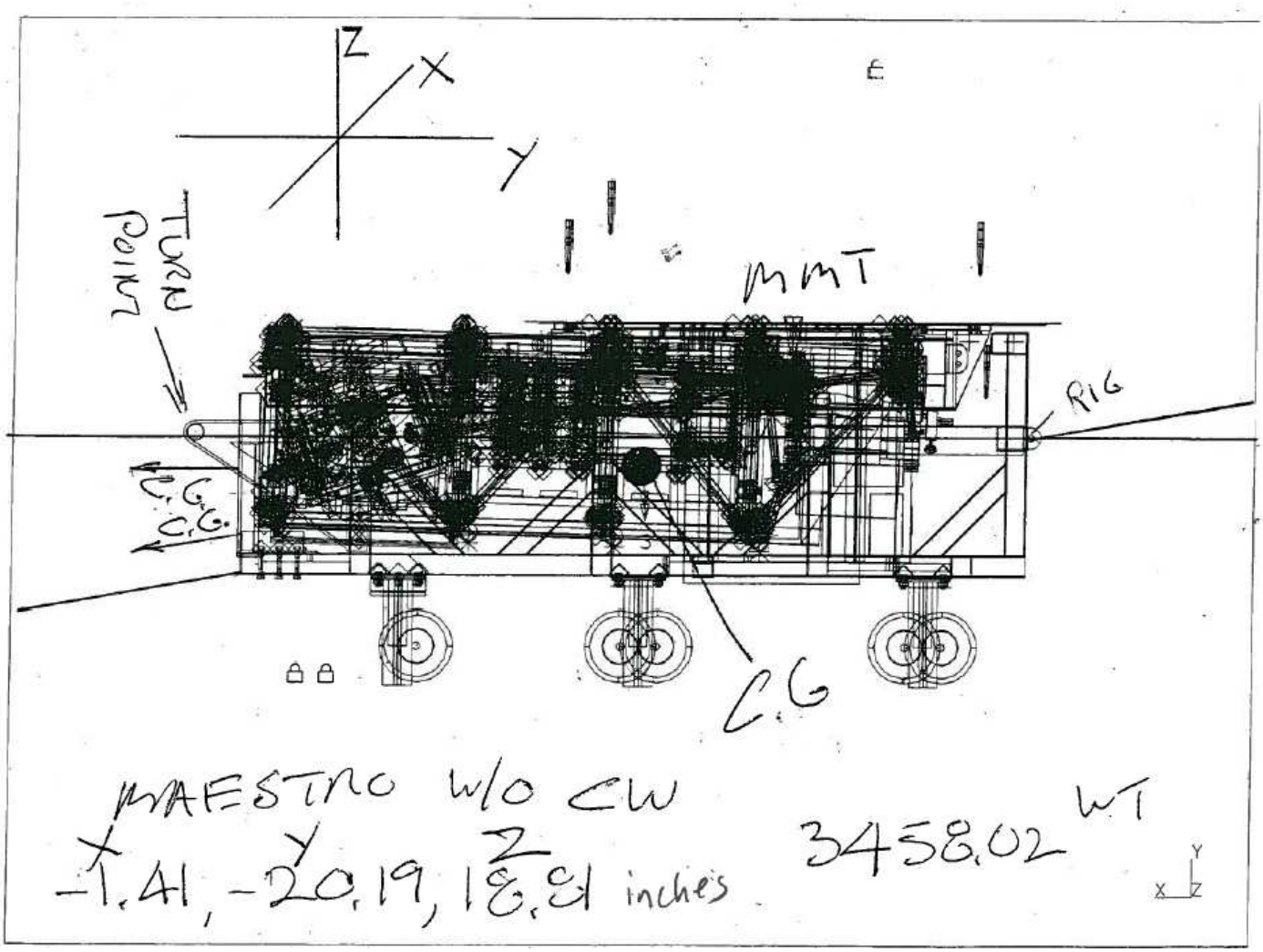
Fig. 2 shows the instrument + the instrument cart, with no counterweights. The turn point and rigging point are shown.